

FIG.1

٧.

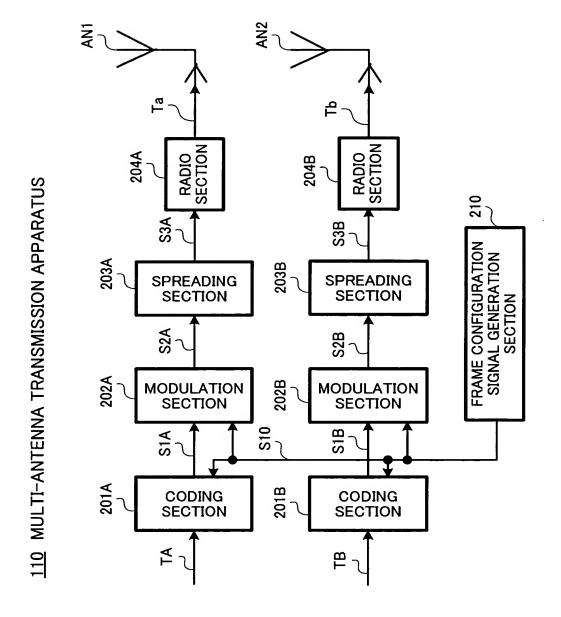
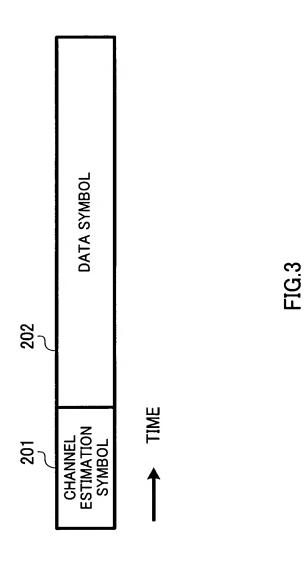


FIG.



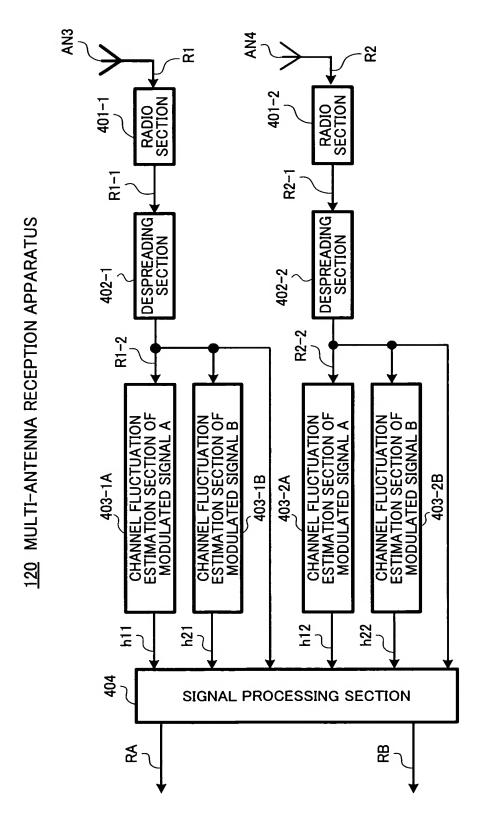
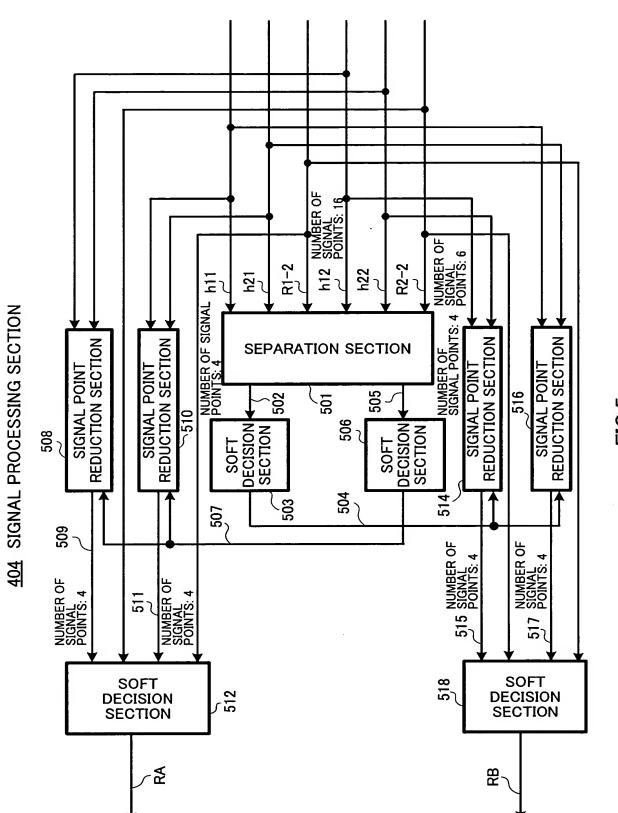


FIG 4

4



-<u>IG.5</u>

503 SOFT DECISION SECTION

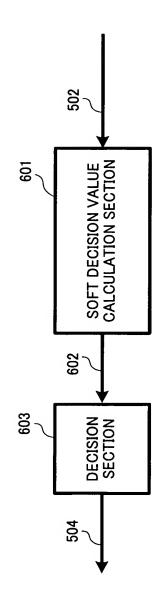
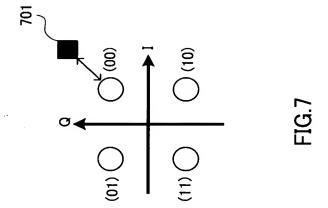


FIG.6



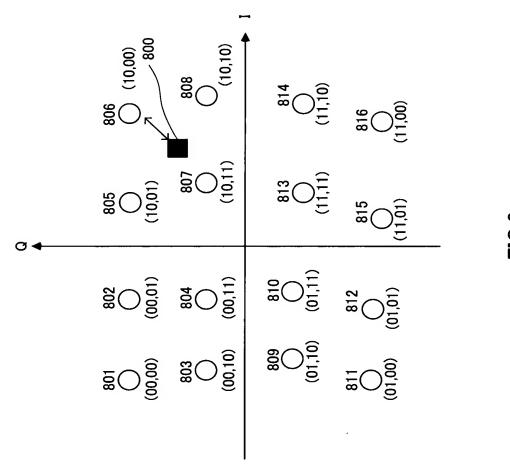
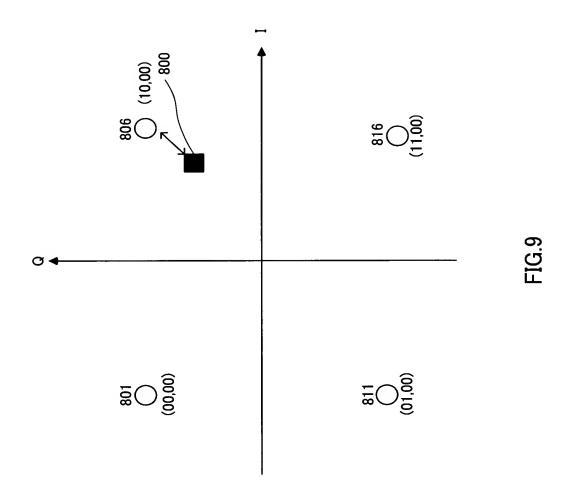
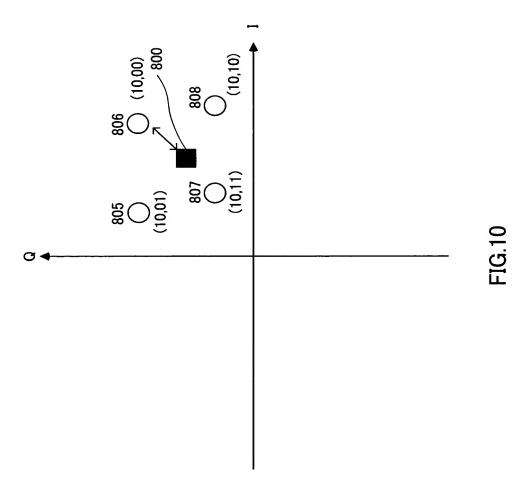


FIG.8





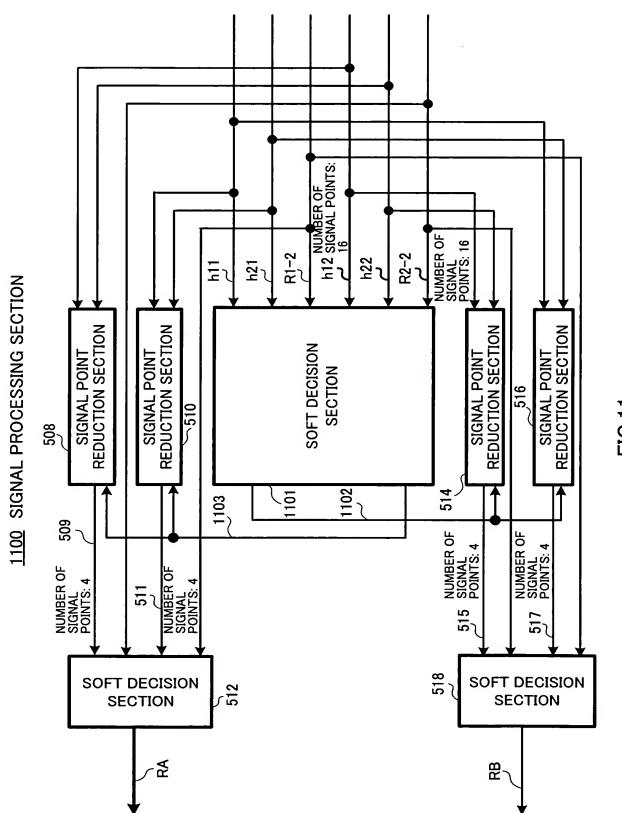


FIG.11

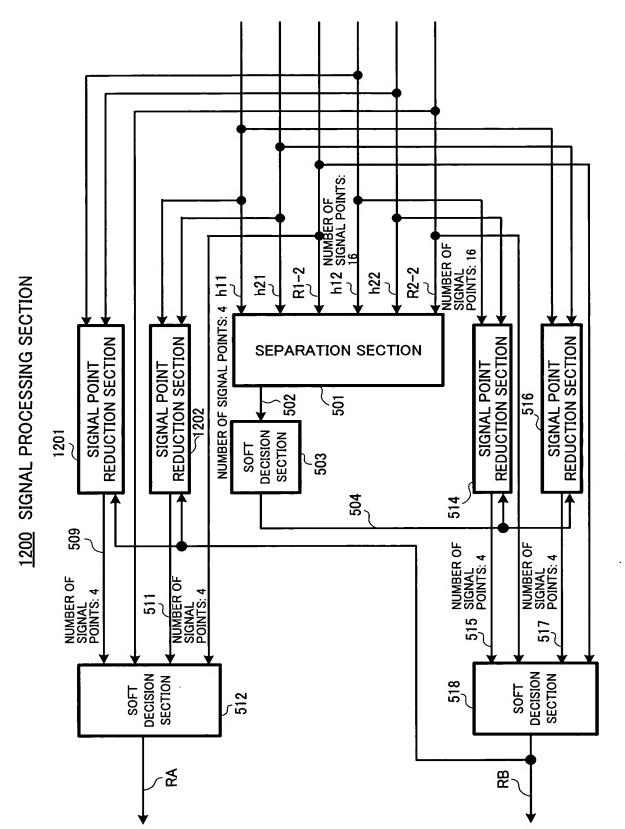


FIG.12

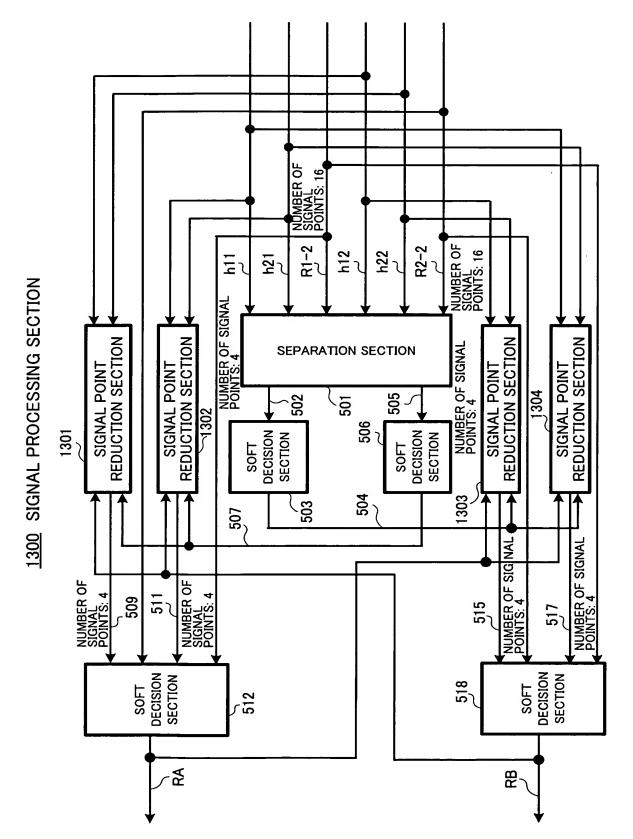


FIG. 13

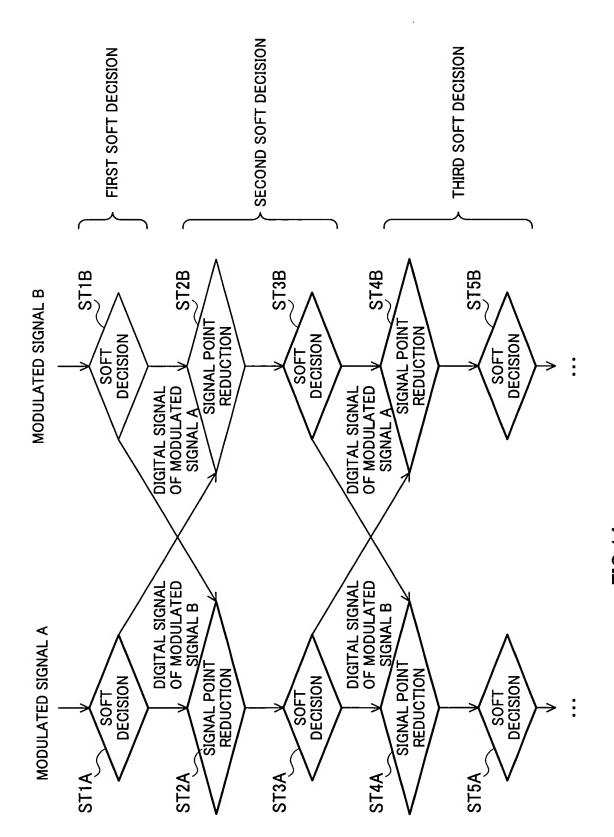


FIG.14

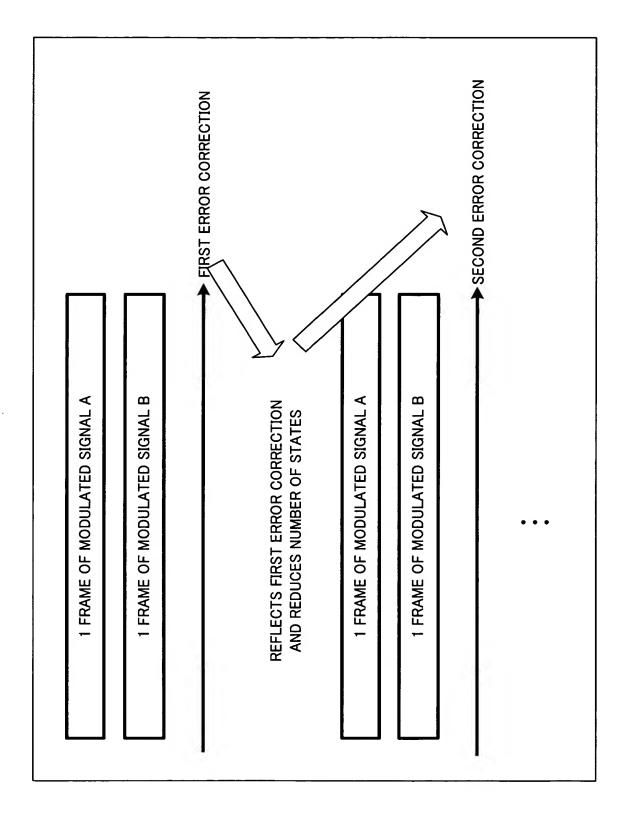


FIG. 15

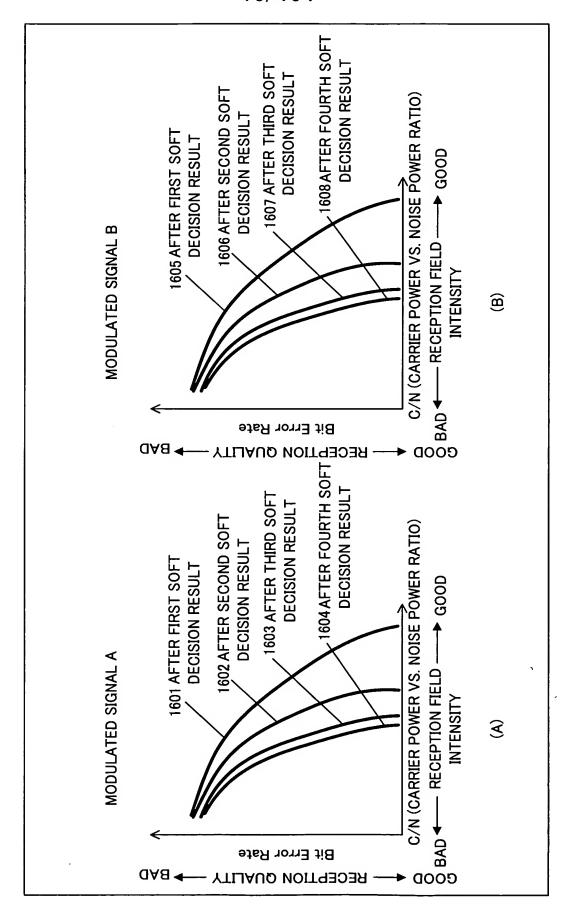


FIG. 16

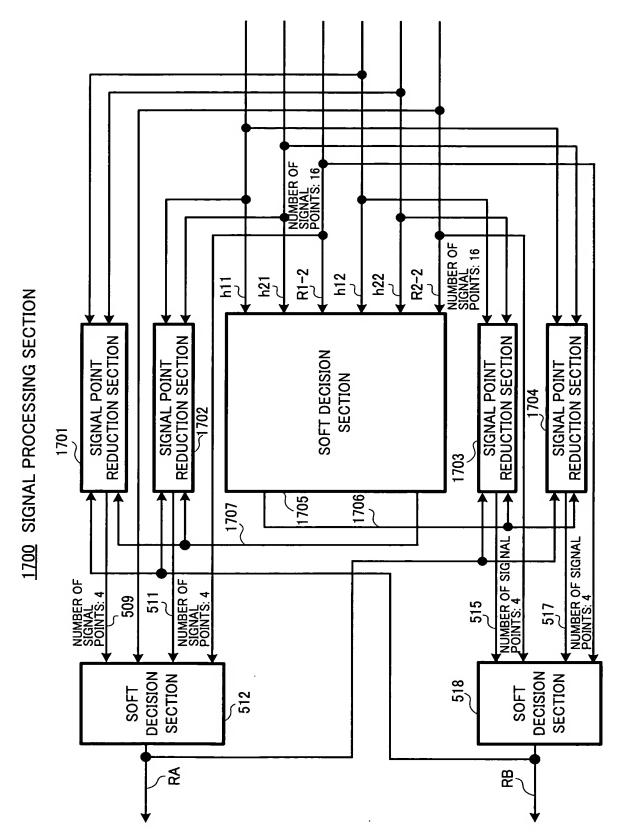


FIG.17

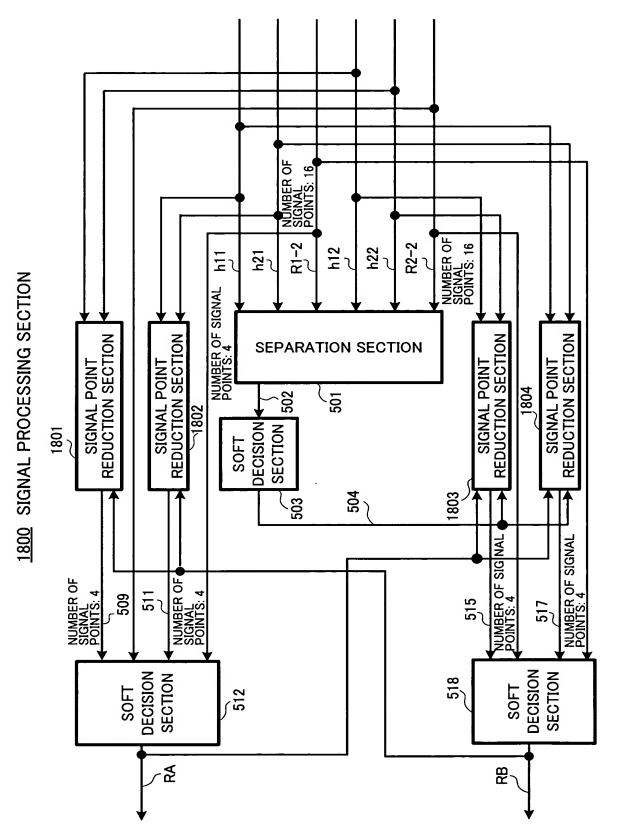
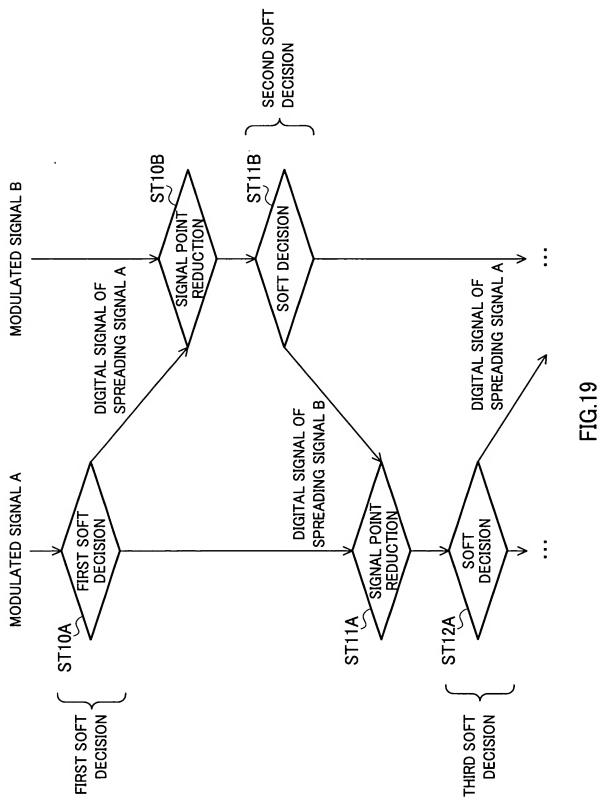


FIG 18



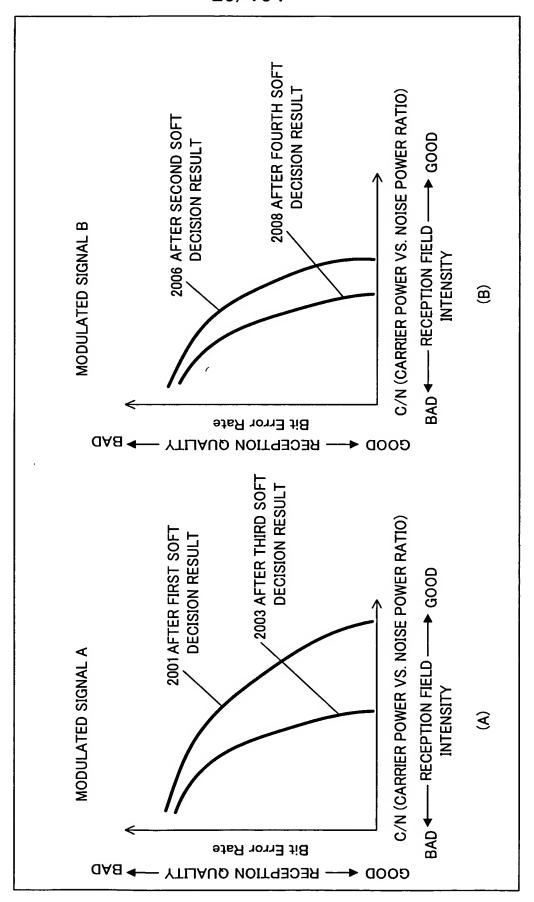


FIG.20

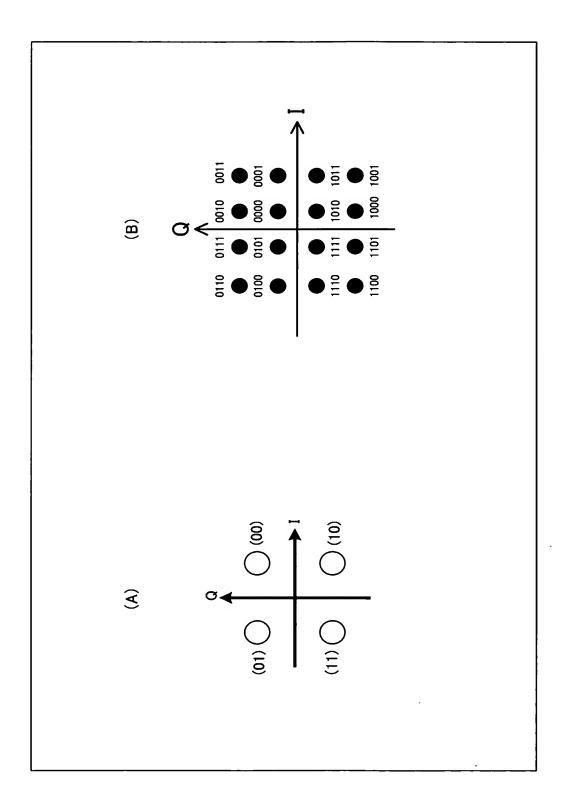
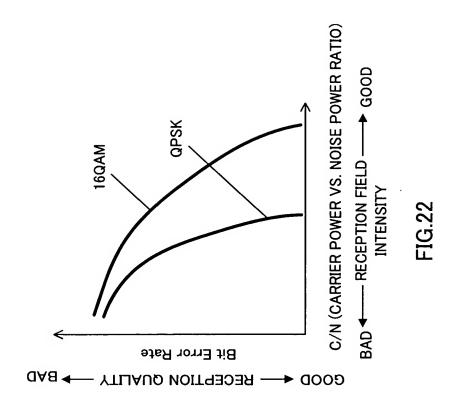
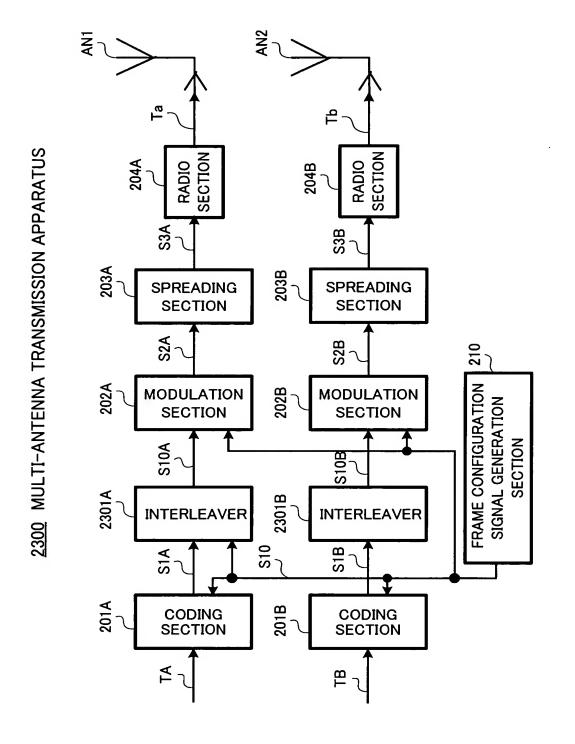


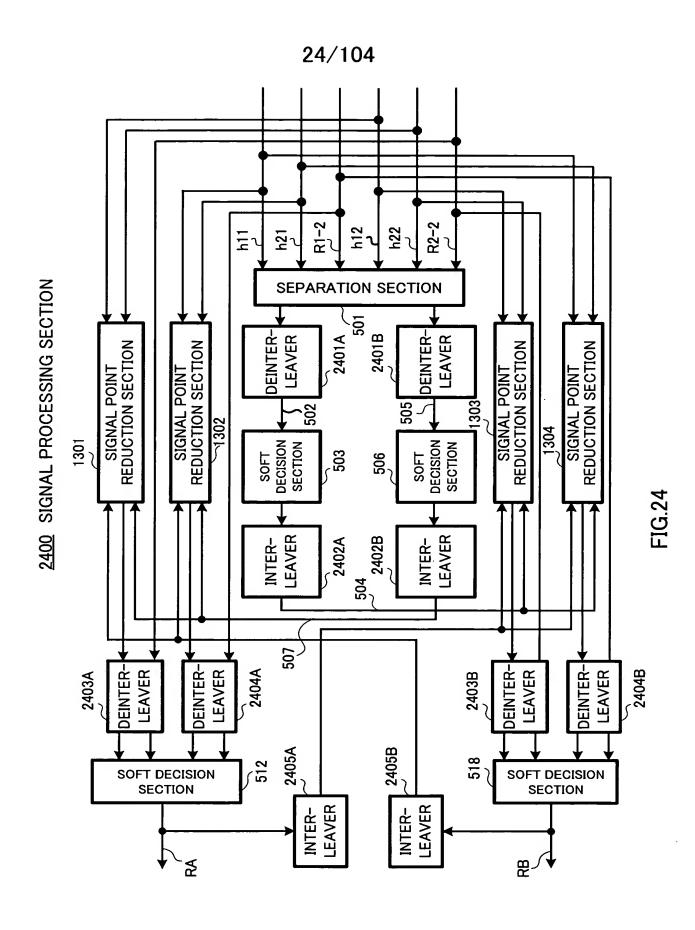
FIG.21





ı

FIG.23



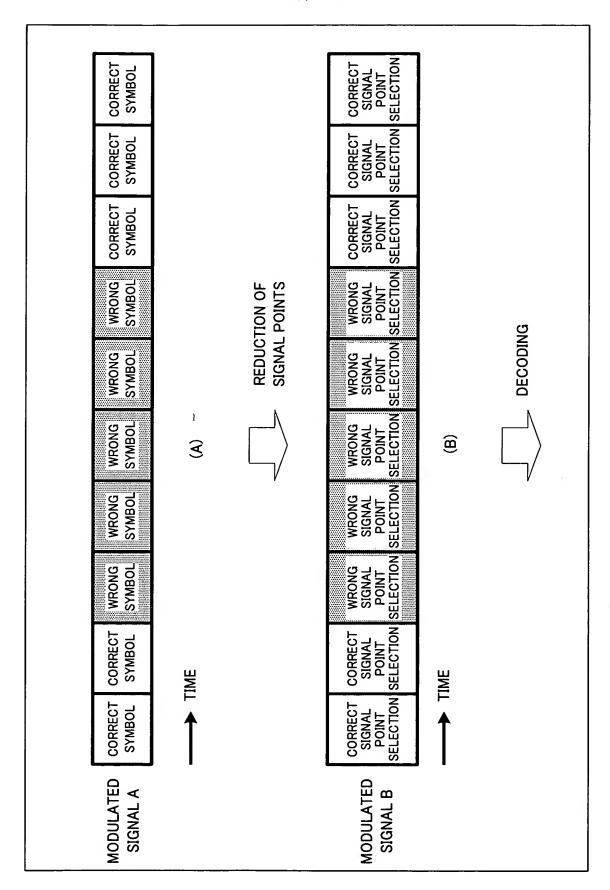
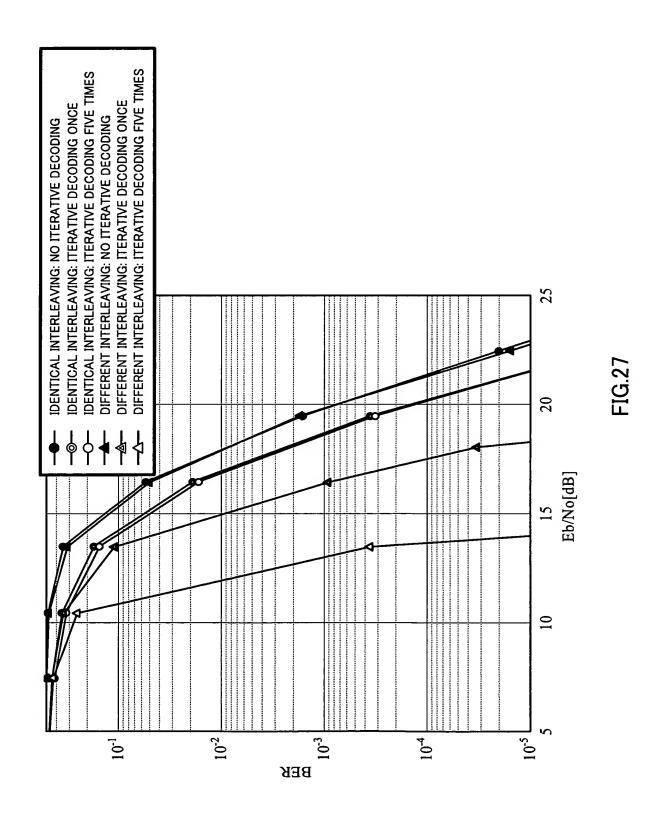


FIG.25

FIG.26



200	DATA
DATA	200
200	DATA
200	200
DATA	DATA
199	199
DATA	DATA
195	192
DATA	DATA
198	198
190	DATA
190	184
DATA	DATA
197	197
DATA	DATA
185	176
<b>:</b> :	: :
DATA 1         DATA 2         DATA 3         DATA 4           DATA 1         DATA 6         DATA 11         DATA 16	DATA 1 DATA 2 DATA 3 DATA 4  DATA 1 DATA 9 DATA 17 DATA 25
BEFORE	BEFORE
INTERLEAVING	INTERLEAVING
AFTER	AFTER
INTERLEAVING	INTERLEAVING
€	(B)

FIG.28

<b>A A A</b>		
DATA 200 DATA 200		
DATA 199 DATA 195	DATA 200	:
DATA 198 DATA 190	DATA DA	
DATA 197 DATA 185		DATA 11 DATA 16
	DATA 190	<del></del>
	DATA 185	DATA 6
DATA 2 DATA 3 DATA 4 DATA 6 DATA 11 DATA 16	<u>:</u>	DATA 1
DATA 3	FA 16.	DATA D. 200
DATA 2 DATA 6	DATA 11 DATA 16 ICY OR TIME	R TIME
	6 DATA	DATA 195 ENCY OR -
DATA 1	DATA	DATA DATA D 190 195 E FREQUENCY OR TIME
ING	DATA 1	DATA 185
BEFORE INTERLEAVING AFTER INTERLEAVING	<u> </u>	<b> "</b>
<b>(A)</b>	(B)	(O)

FIG.29

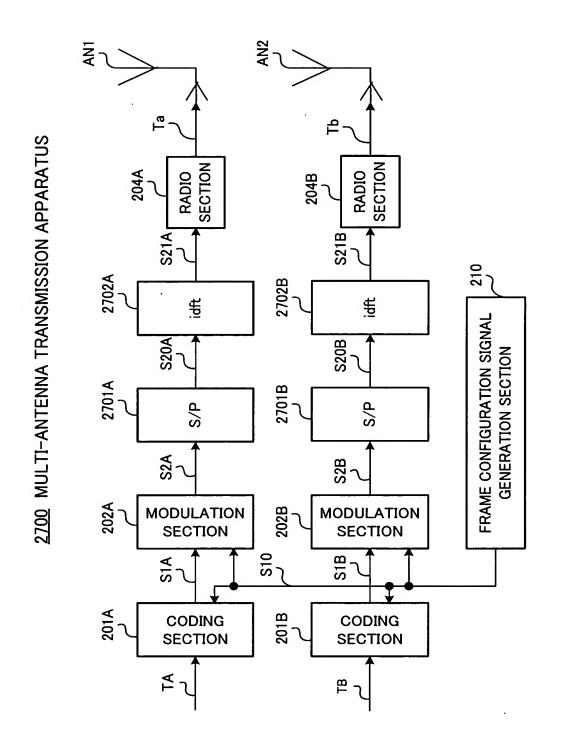


FIG.30

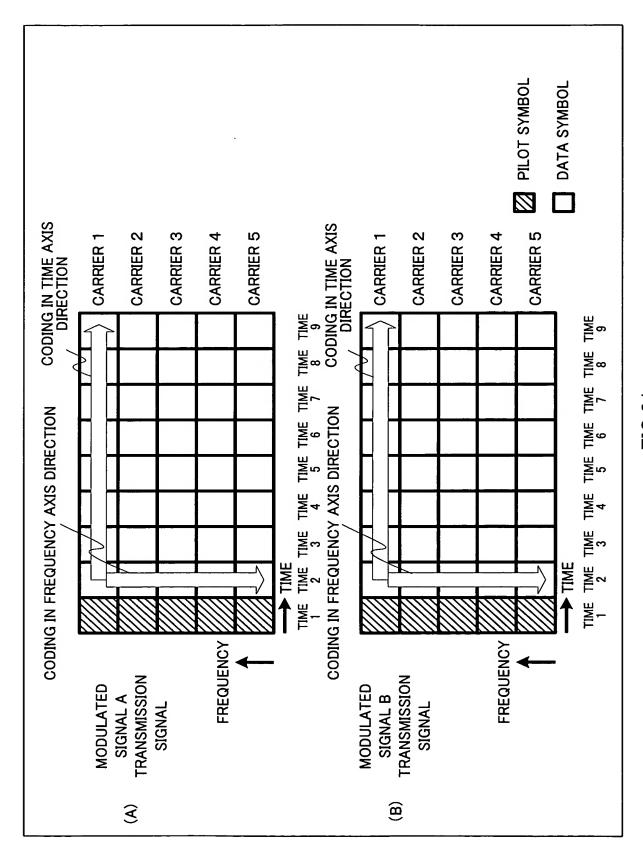


FIG.31

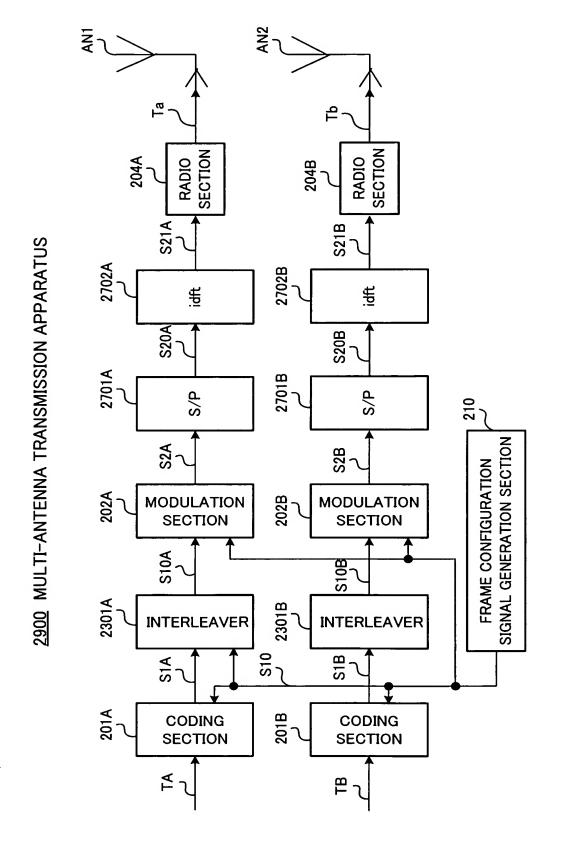


FIG.32

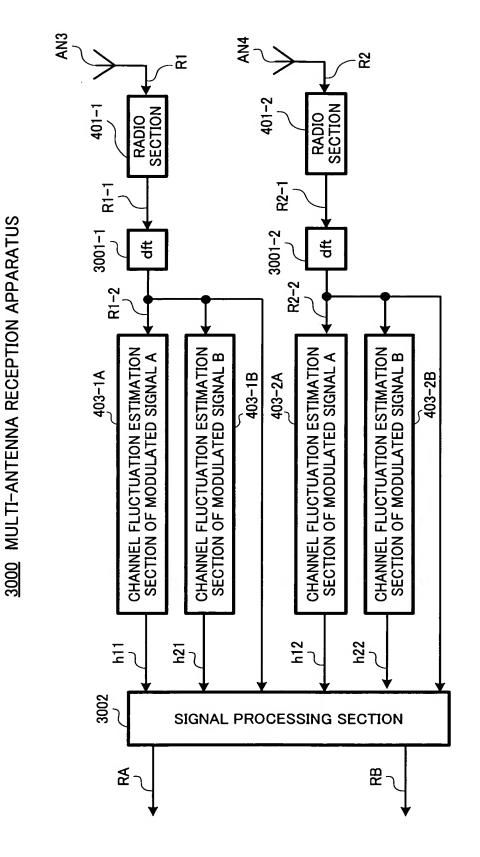


FIG. 33

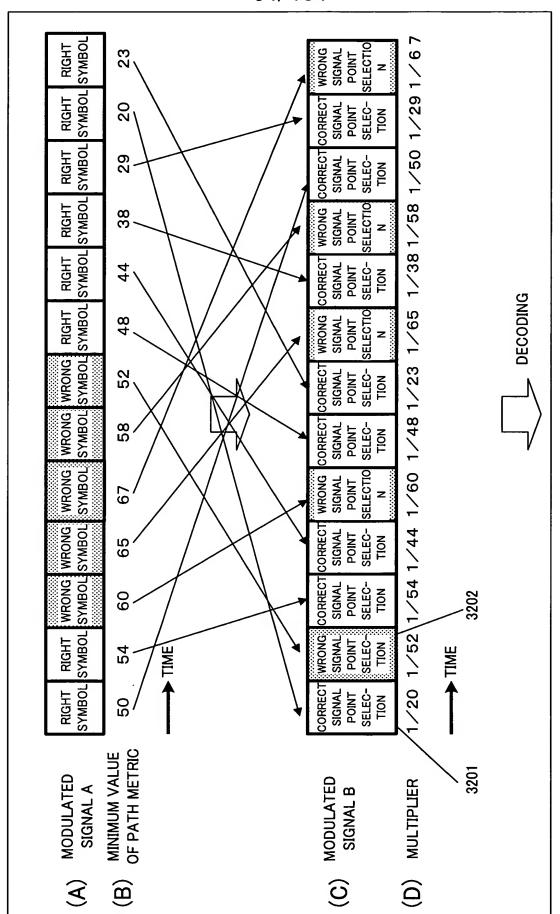


FIG.32

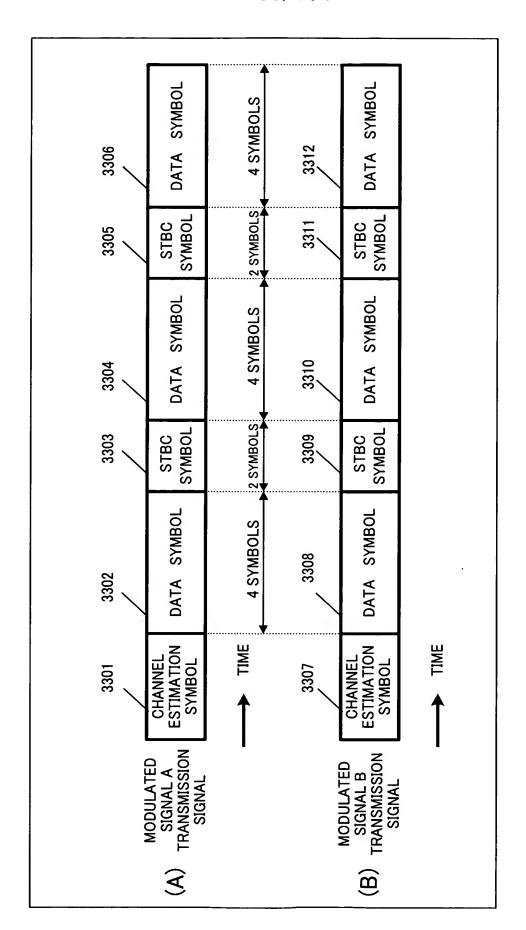
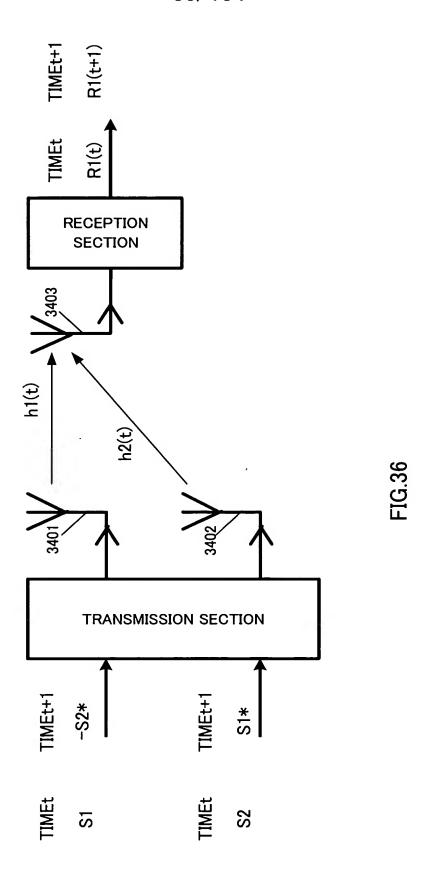
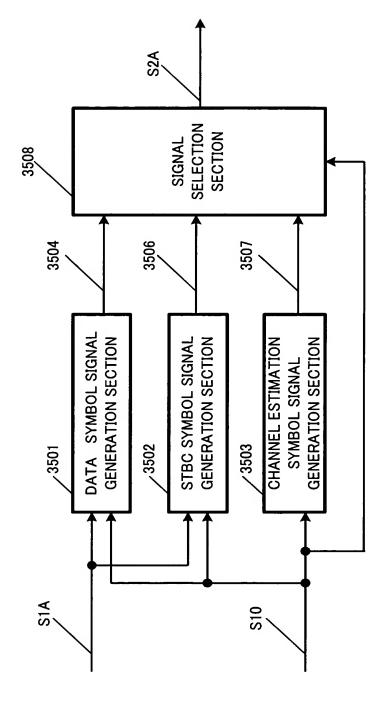


FIG. 35





202A (202B)

FIG.37

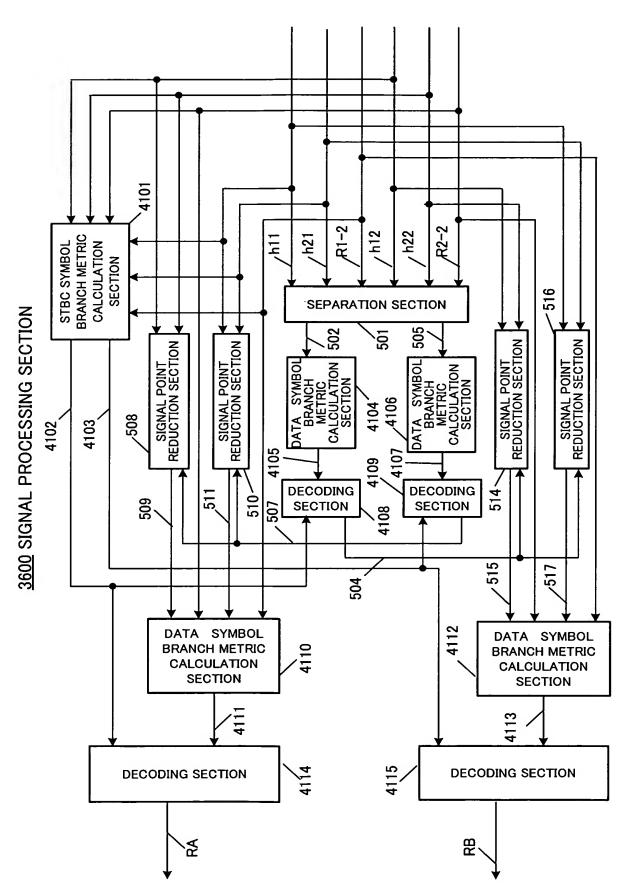
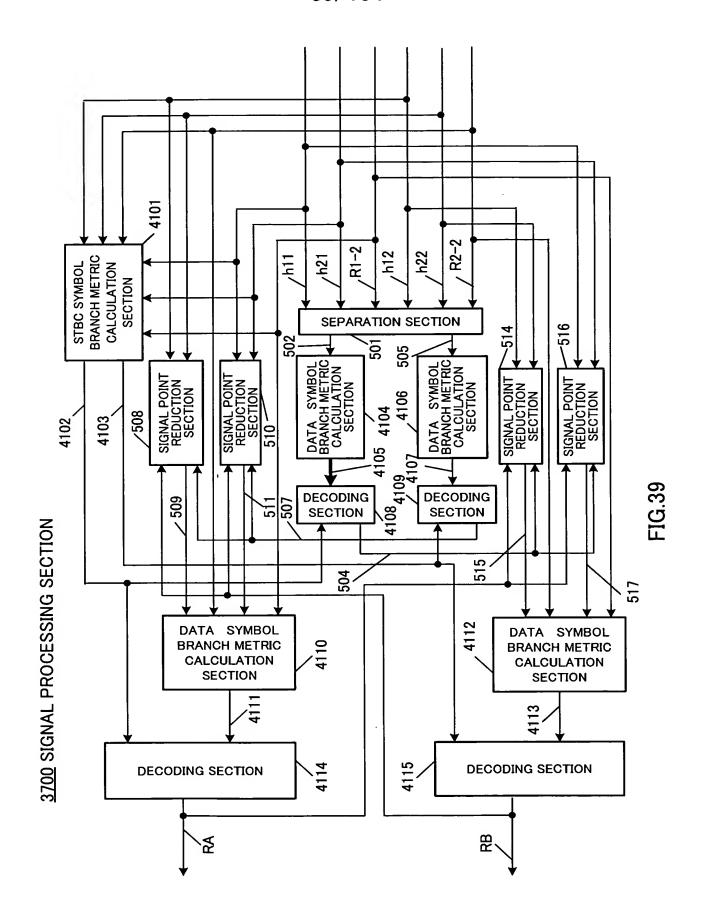
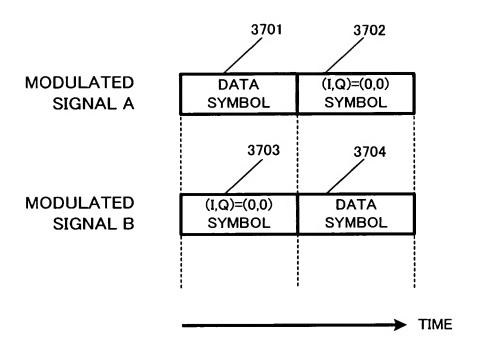


FIG 38

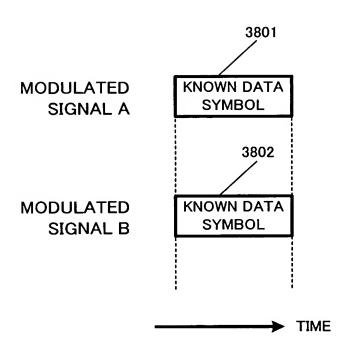


DATA DATA DATA SYMBOL		WRONG CORRECT CORRECT CORRECT CORRECT CORRECT CORRECT CORRECT WRONG WRONG SYMBOL		REDUCTION OF SIGNAL POINTS	CORRECT WRONG WRONG SIGNAL SIGNAL POINT POINT POINT SELEC- SELEC- TION TION	
STBC		CORRECT		į	SIGNAL POINT SELEC- TION UNNECE- SSARY	<u> </u>
DATA		CORRECT			CORRECT SIGNAL POINT SELEC- TION	DECODING
DATA		CORRECT		REDUCTION OF SIGNAL POINTS	CORRECT CORRECT SIGNAL SIGNAL POINT POINT POINT SELEC- SELEC- TION TION	
DATA		CORRECT		REDUCTION OF SIGNAL POINTS		
DATA		CORRECT			CORRECT SIGNAL POINT SELEC- TION	
STBC		CORRECT			SIGNAL POINT SELEC- TION UNNECE- SSARY	
DATA		CORRECT		JF TS	CORRECT SIGNAL POINT SELEC- TION	
DATA				REDUCTION OF SIGNAL POINTS	WRONG SIGNAL POINT SELEC- TION	
DATA		WRONG	V	REDUC' SIGNAL	WRONG SIGNAL POINT SELEC- TION	
FRAME CONFIGURATION OF MODULATED	K 1 K 1 K 1 K 1 K 1 K 1 K 1 K 1 K 1 K 1	MODULATED SIGNAL A	TIME		MODULATED SIGNAL B ■ TIME	
3		(8)			<u>(</u> )	

FIG.40



**FIG.41** 



**FIG.42** 

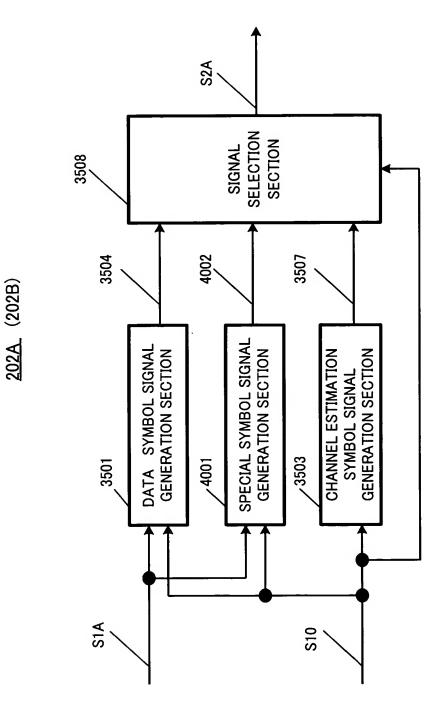


FIG.4

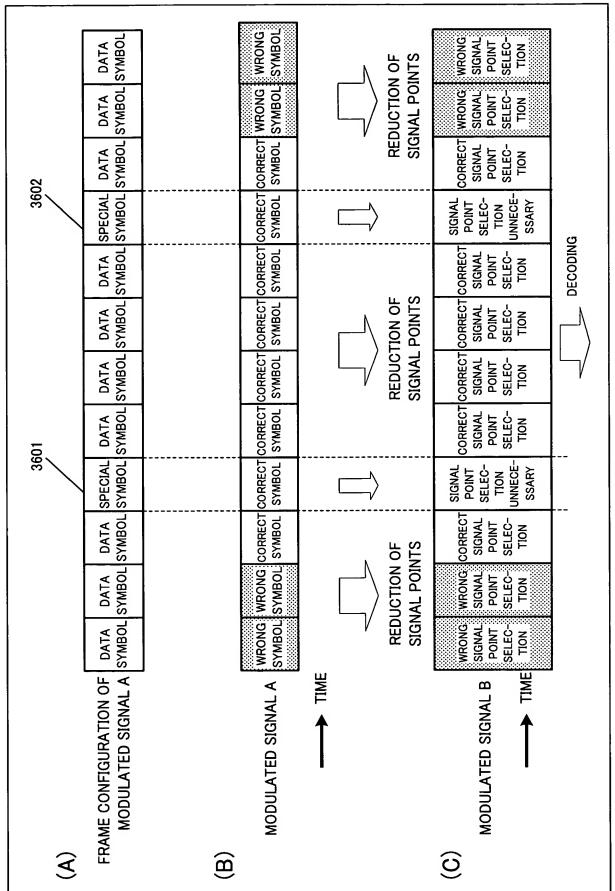


FIG.44

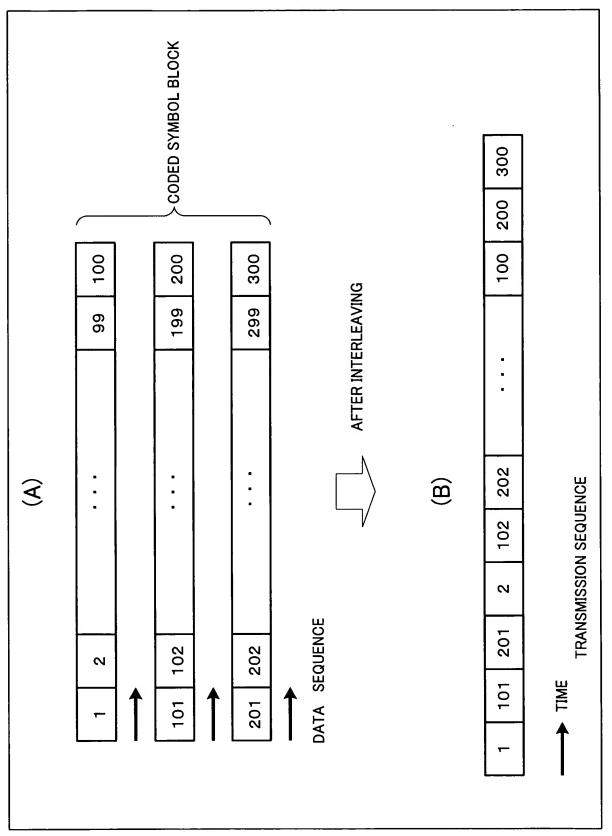
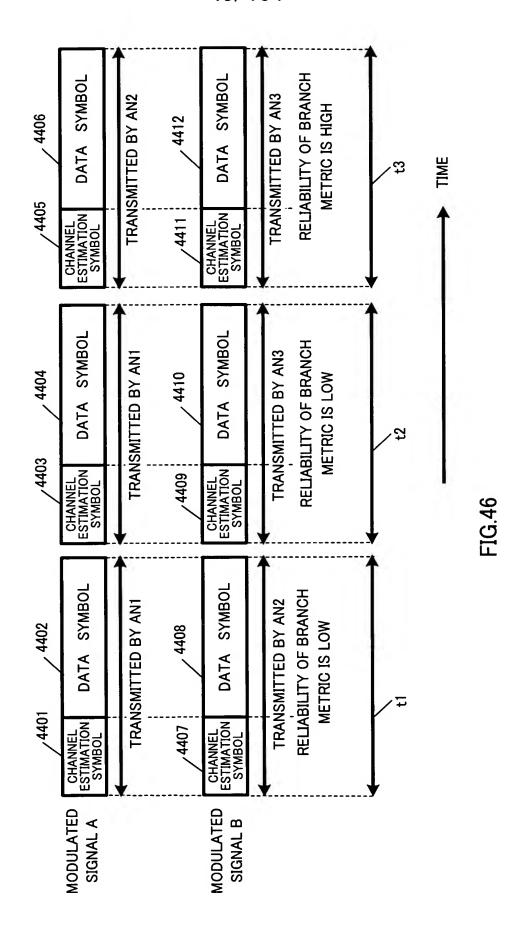
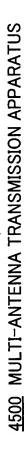


FIG.45





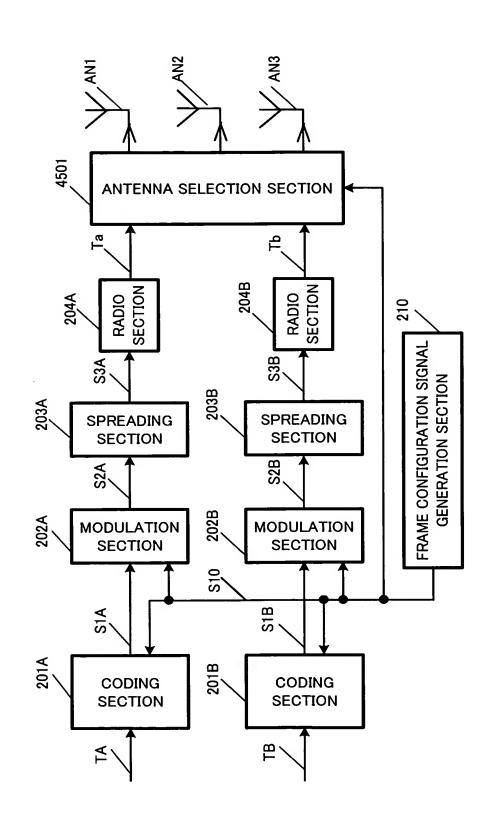


FIG.47

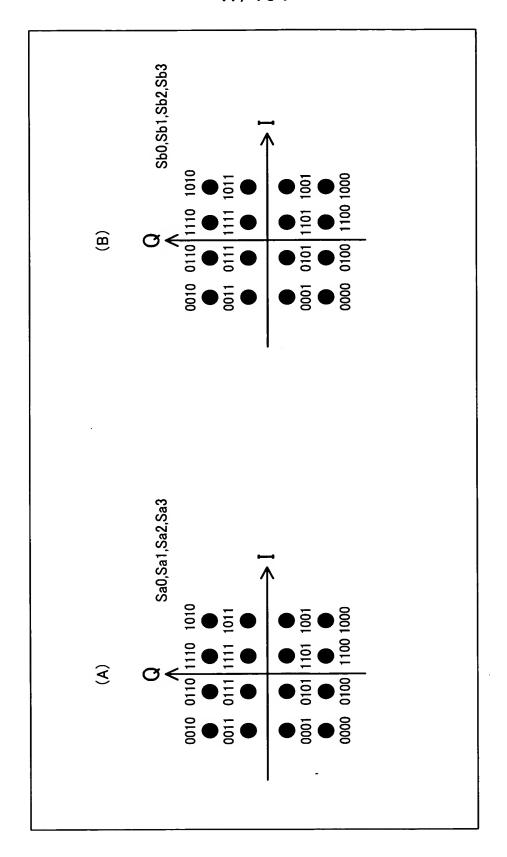
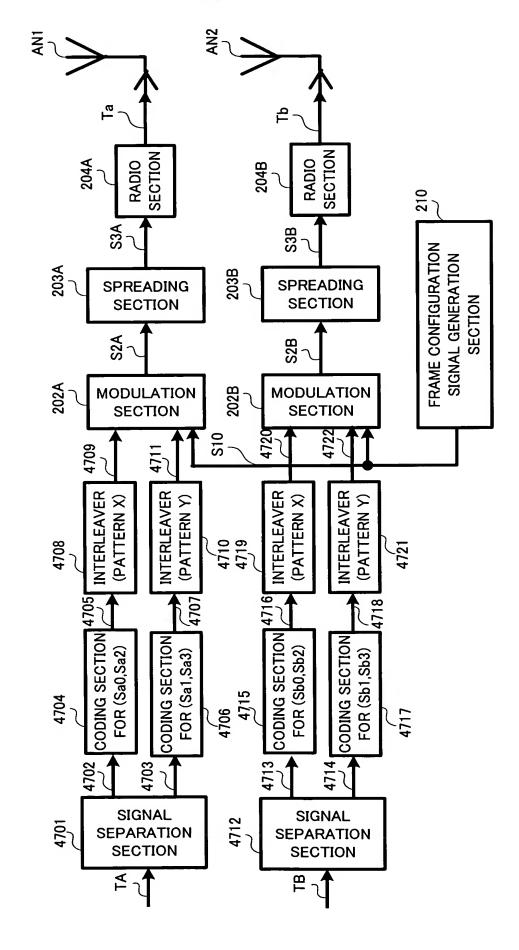


FIG.48

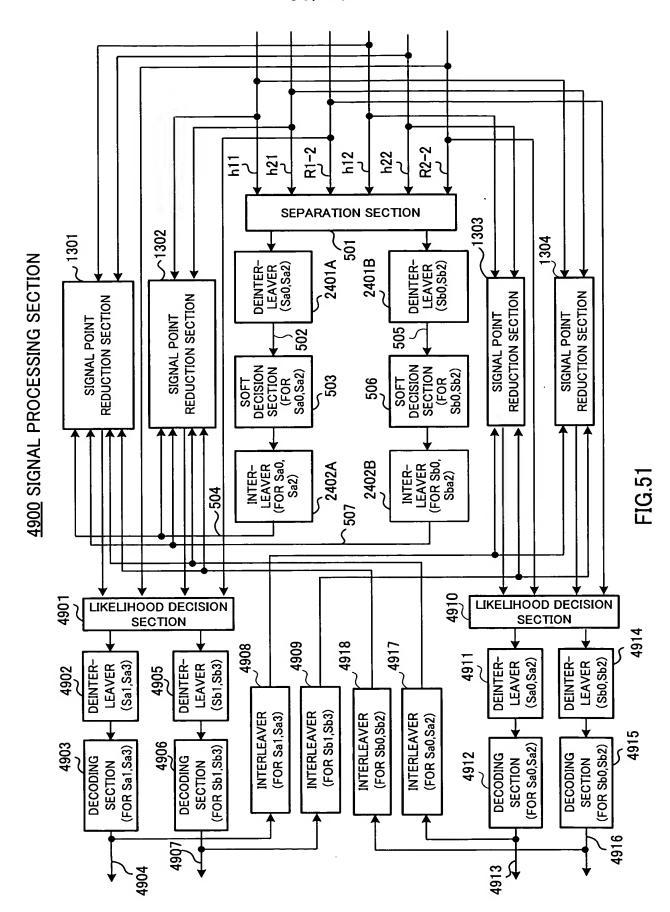


4700 MULTI-ANTENNA TRANSMISSION APPARATUS

FIG.49

DATA         DATA         DATA         DATA           197         198         199         200           DATA         DATA         DATA         DATA           185         190         195         200	DATA         DATA         DATA         DATA           197         198         199         200           DATA         DATA         DATA         DATA           176         184         192         200	DATA         DATA         DATA         DATA           197         198         199         200           DATA         DATA         DATA         DATA           185         190         195         200	DATA         DATA         DATA         DATA           197         198         199         200           DATA         DATA         DATA         DATA           176         184         192         200	TIME
i i	<b>: :</b>	: :	: :	
Sa0,Sa2 DATA DATA DATA  DATA DATA DATA  DATA DATA	Sa1,Sa3 DATA DATA DATA DATA 1 2 3 4 4 Sa1,Sa3 1 DATA DATA DATA 25	Sb0,Sb2 DATA DATA DATA DATA  1 2 3 4  Sb0,Sb2 1 DATA DATA DATA  1 6 11 16	Sb1,Sb3 DATA DATA DATA  1 2 3 4  Sb1,Sb3 1 DATA DATA  DATA DATA DATA DATA  1 9 17 25	
BEFORE INTERLEAVING AFTER INTERLEAVING				
MODULATED	SIGNAL A	MODULATE	D SIGNAL B	

FIG 50



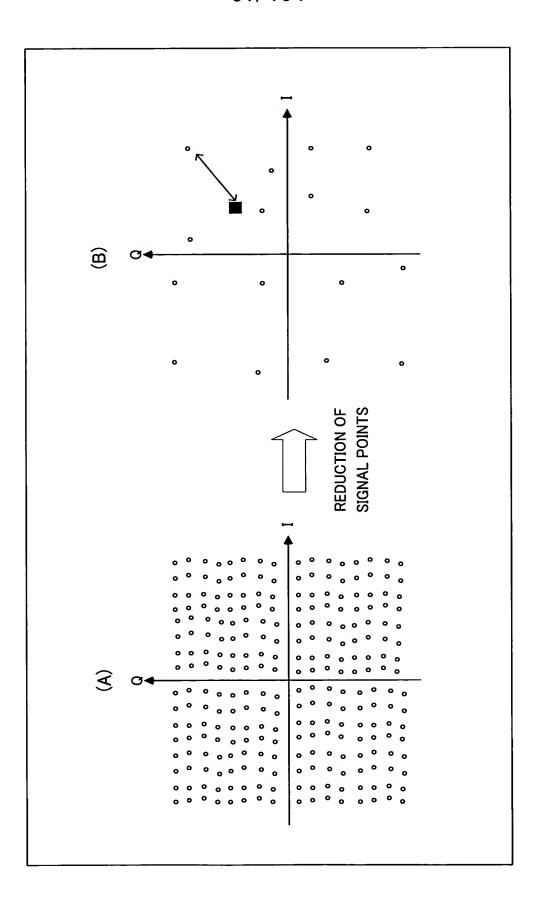
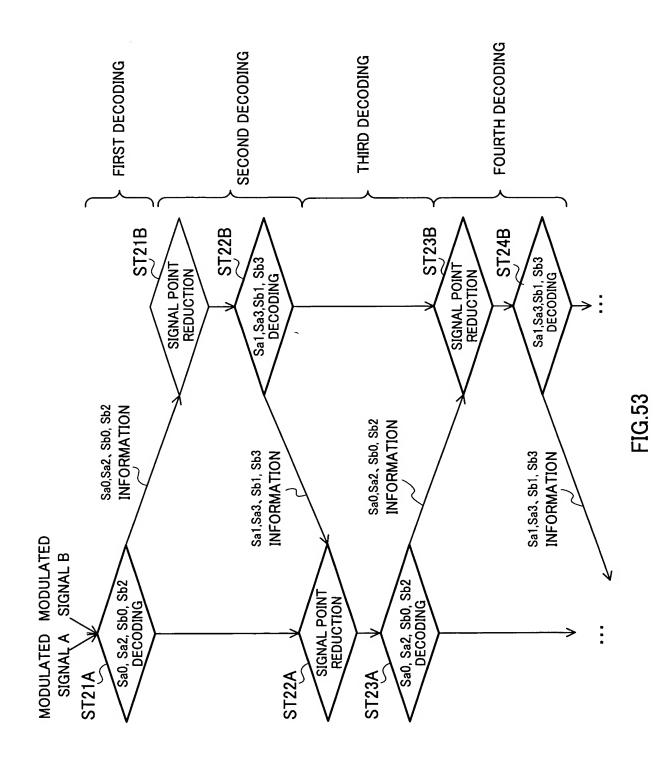


FIG.52



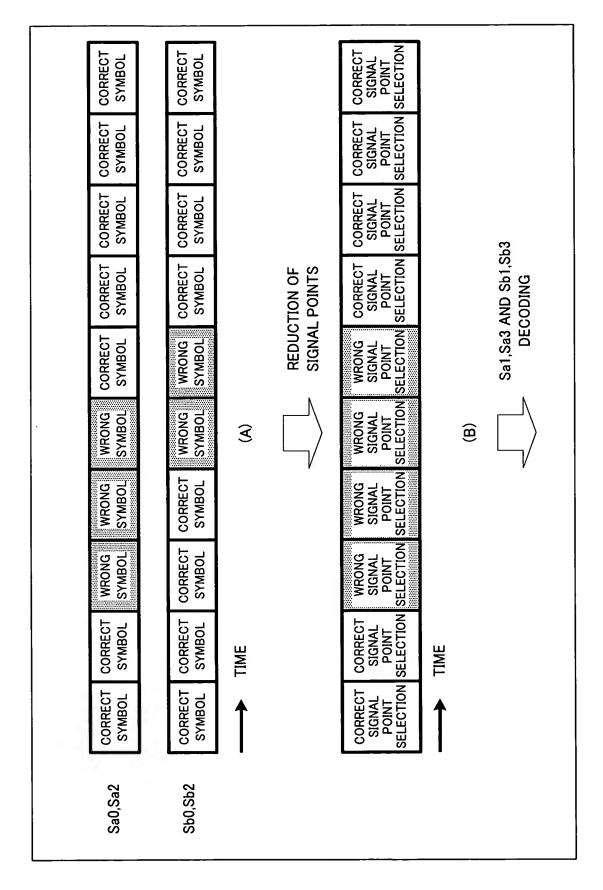
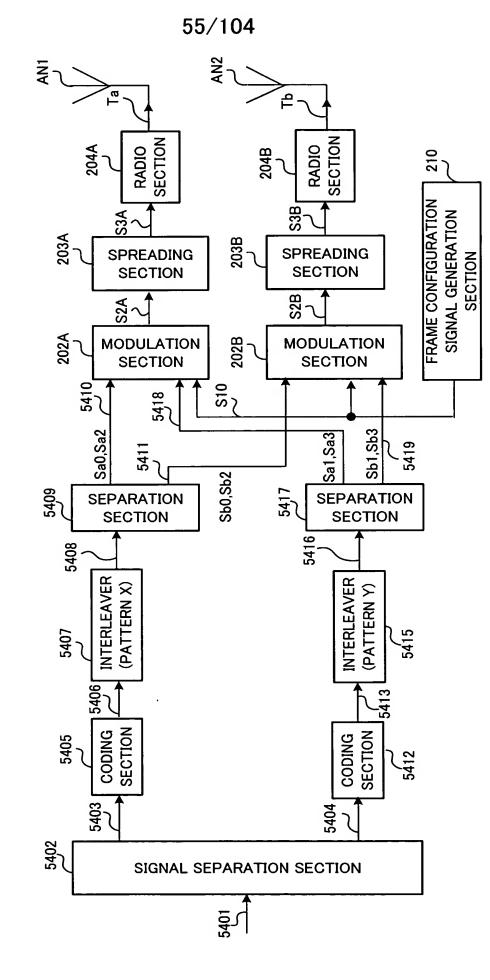


FIG.54

	F. 1					
CORRECT	CORRECT			CORRECT SIGNAL POINT SELECTION		
CORRECT	CORRECT			WRONG SIGNAL POINT SELECTION		
CORRECT	CORRECT			CORRECT SIGNAL POINT SELECTION		P3
CORRECT	CORRECT		REDUCTION OF SIGNAL POINTS	CORRECT SIGNAL POINT SELECTION		Sa'i,Sa3 AND Sb1,Sb3 DECODING
CORRECT	WRONG		REDUC	WRONG SIGNAL POINT SELECTION		Sa1,Sa3 / DE(
WRONG	WRONG	3		CORRECT SIGNAL POINT SELECTION	(B)	
WRONG	CORRECT		·	WRONG SIGNAL POINT SELECTION		
WRONG	CORRECT			CORRECT SIGNAL POINT SELECTION		
CORRECT SYMBOL	CORRECT	TIME		CORRECT SIGNAL POINT SELECTION	TIME	
CORRECT	CORRECT	<b>1</b>		WRONG CORRECT SIGNAL POINT SELECTION SELECTION	<b>1</b>	
Sa0,Sa2	Sb0,Sb2	·				
					-	

FIG.55

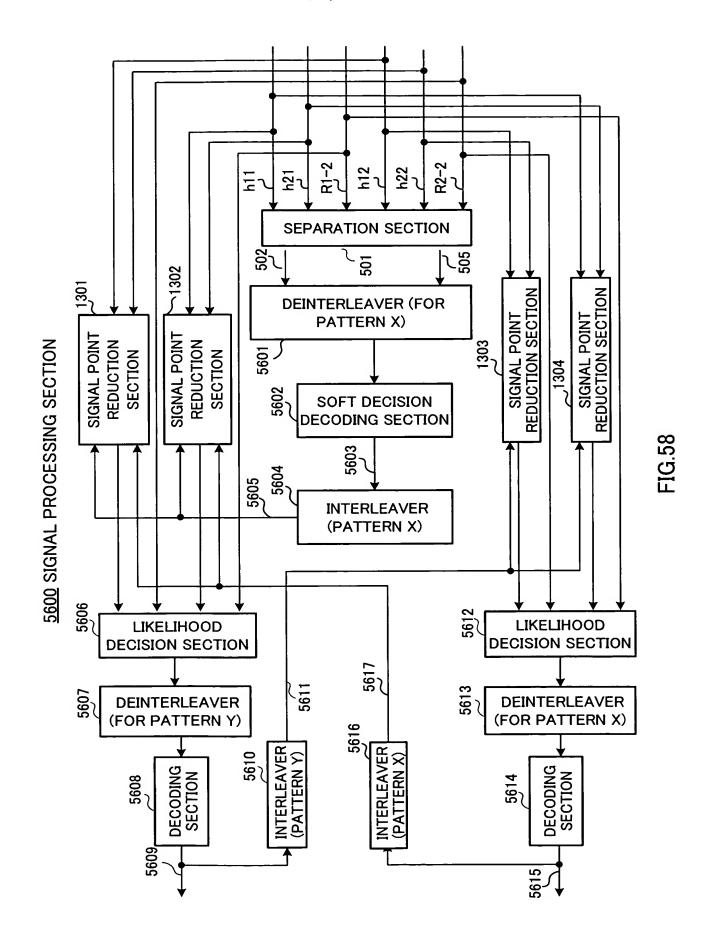


5400 MULTI-ANTENNA TRANSMISSION APPARATUS

FIG.56

ORE EAVING TER DATA DATA EAVING Sa0,Sa2  DATA DATA 1 11 11 11 11 11 11 11 11 11 11 11 11	(A) INTERLEAVE PATTERN X	DATA DATA DATA DATA DATA 3 4 197 198 199 200	DATA         DATA         DATA         DATA         DATA           11         16         195         200	DATA DATA 185 195	DATA DATA 190 200	(B) INTERLEAVE PATTERN Y	DATA DATA DATA DATA DATA 3 4 199 200	DATA DATA DATA DATA DATA DATA 192 200	DATA DATA 176 192	DATA DATA 184 200
		BEFORE DATA DATA INTERLEAVING	AFTER DATA DATA INTERLEAVING	Sa0,Sa2 DATA DATA	Sb0,Sb2 DATA DATA 6 16		BEFORE DATA DATA INTERLEAVING	AFTER DATA DATA I 9	Sa1,Sa3 DATA DATA	Sb1,Sb3 DATA DAT/

FIG.57



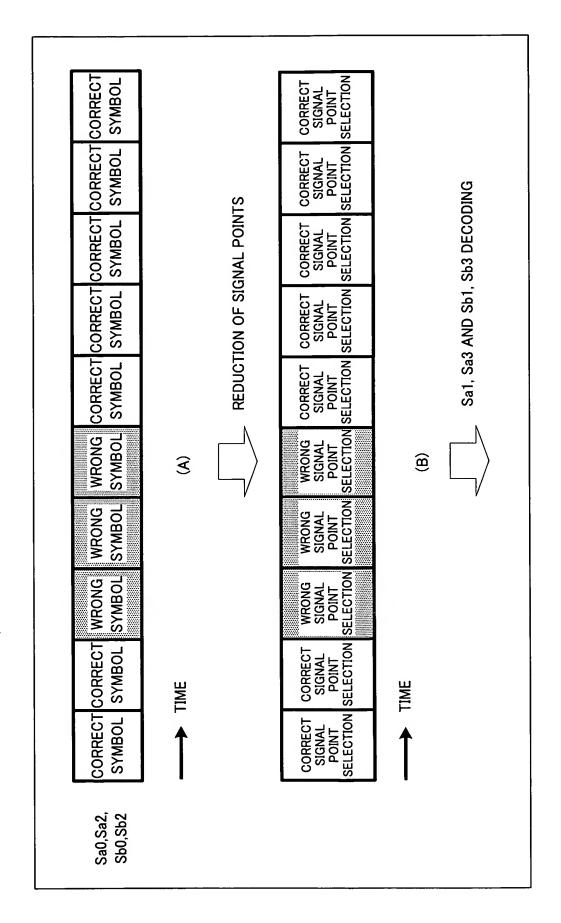


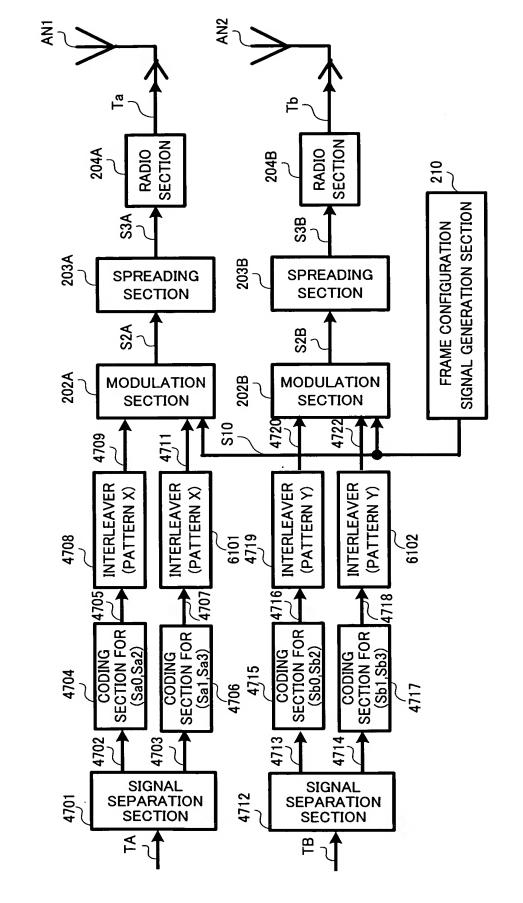
FIG.59

WRONG WRONG CORRECT CORRECT CORRECT CORRECT SYMBOL SYMBOL SYMBOL SYMBOL SYMBOL	€	REDUCTION OF SIGNAL POINTS	CORRECT CORRECT WRONG CORRECT CORRECT WRONG CORRECT SIGNAL SIGNAL SIGNAL SIGNAL SIGNAL SIGNAL SIGNAL POINT POINT POINT POINT SELECTION SELECTION SELECTION	(B)	Sa1, Sa3 AND Sb1, Sb3 DECODING
Sa0,Sa2, CORRECT CORRECT WRONG V Sb0,Sb2 SYMBOL SYMBOL SYMBOL S	<b>■</b> TIME		CORRECT WRONG CORRECT C SIGNAL SIGNAL POINT POINT SELECTION SELECTION SELECTION SE	TIME	

FIG.60

(A) INTERLEAVE PATTERN X	DATA DATA DATA DATA 199 200	DATA DATA DATA DATA 185 190 195 200	DATA DATA 185 195	DATA DATA 190 200	(B) INTERLEAVE PATTERN Y	DATA DATA DATA DATA 199 200	DATA DATA DATA DATA 192 200	DATA DATA 176 192	DATA DATA 200
	AVING DATA DATA DATA DATA DATA	VING DATA DATA DATA DATA 16	Sa2 DATA DATA	Sa3 DATA DATA 6 16	(B) INTERL	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	VING DATA DATA DATA DATA VING	b2 DATA DATA	b3 DATA DATA 9 25
	BEFORE INTERLEAVING	AFTER INTERLEAVING	Sa0,Sa2	Sa1,Sa3		BEFORE INTERLEAVING	AFTER INTERLEAVING	Sb0,Sb2	Sb1,Sb3

FIG.61



6100 MULTI-ANTENNA TRANSMISSION APPARATUS

FIG.63

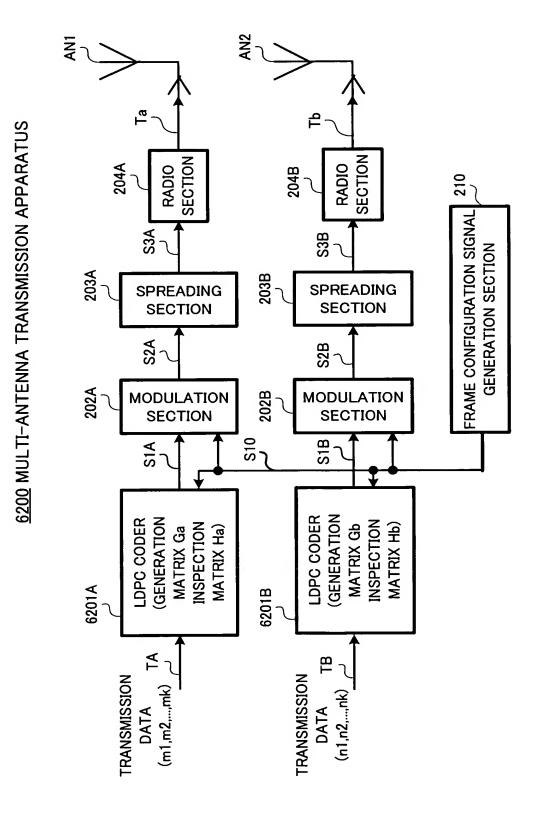
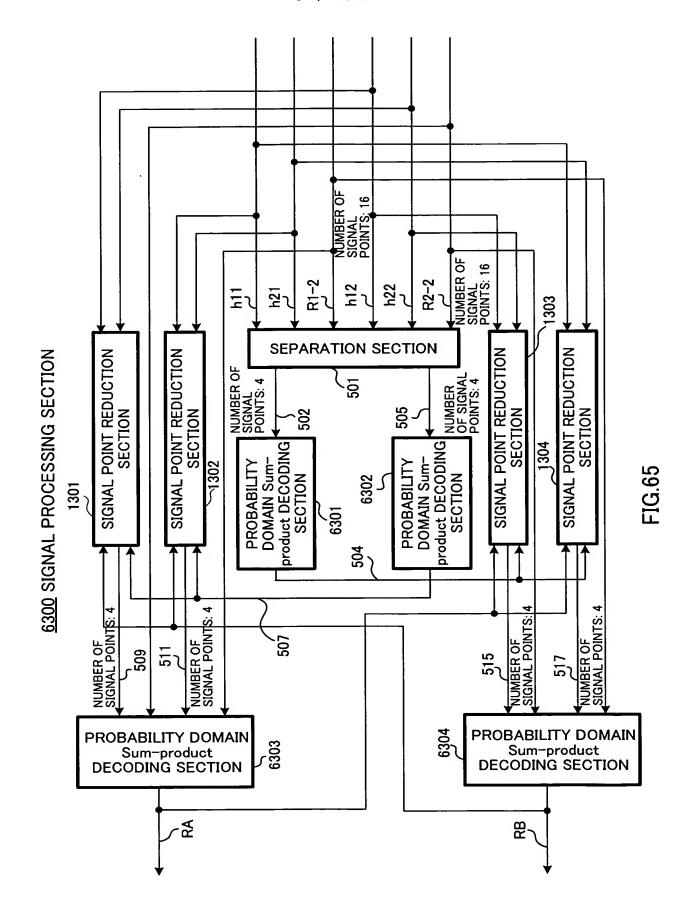
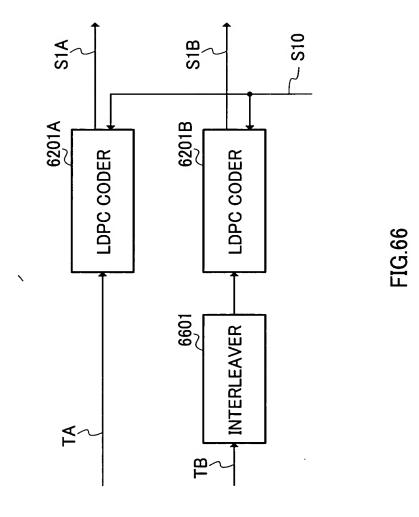


FIG.64





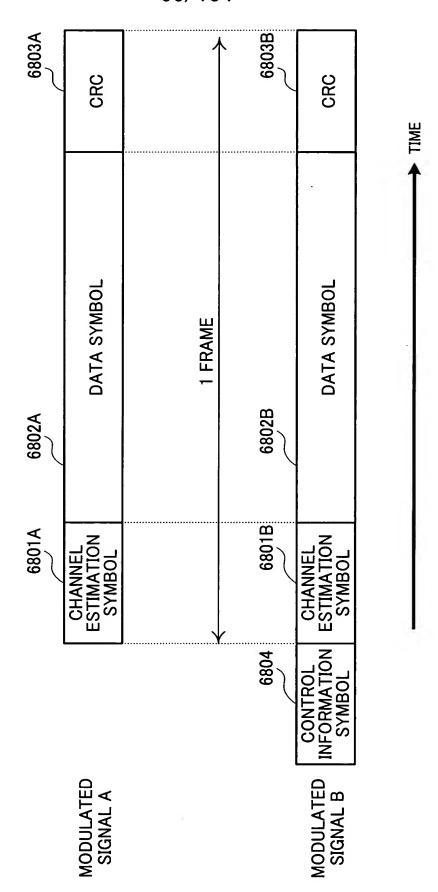


FIG.67

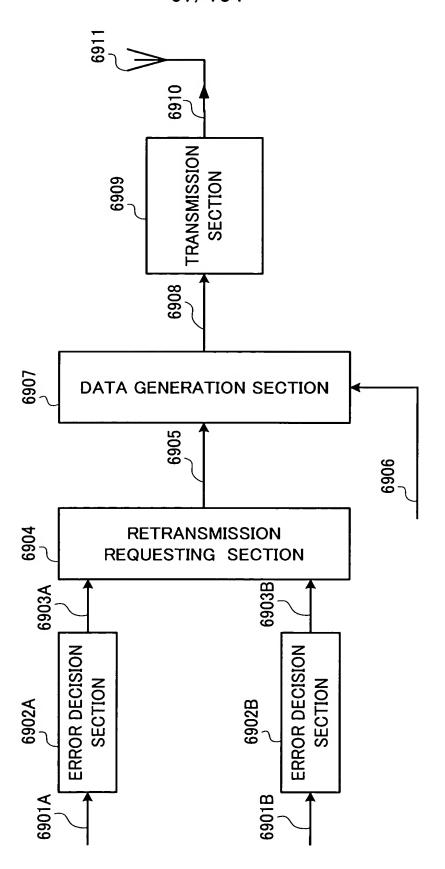


FIG.68

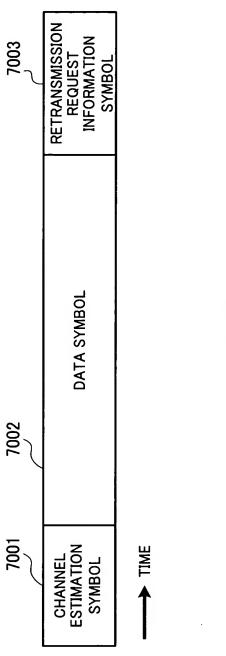
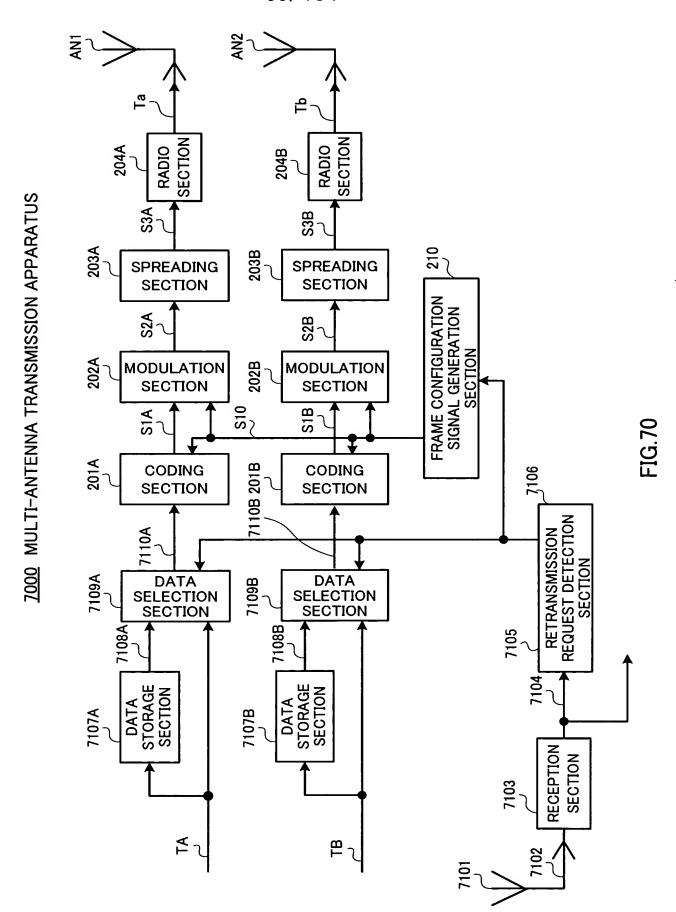
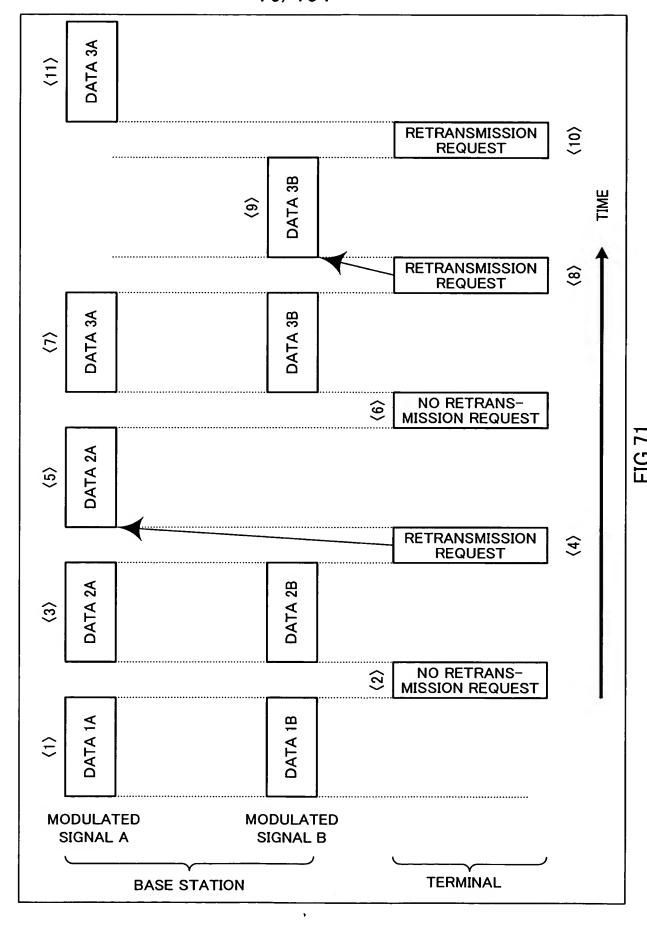
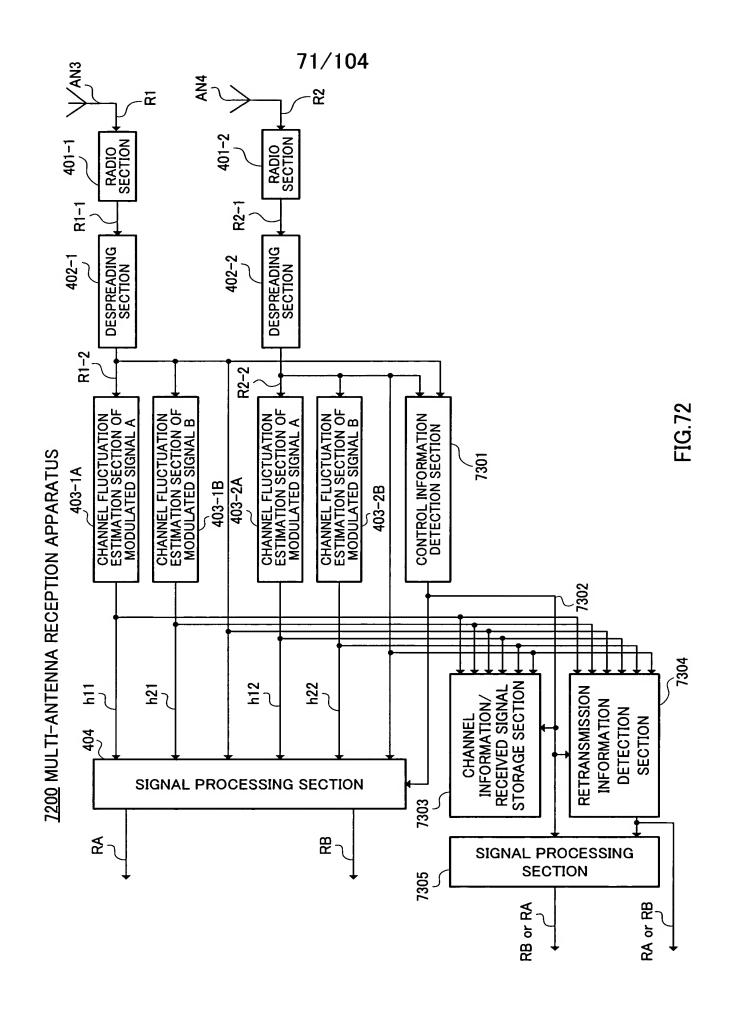
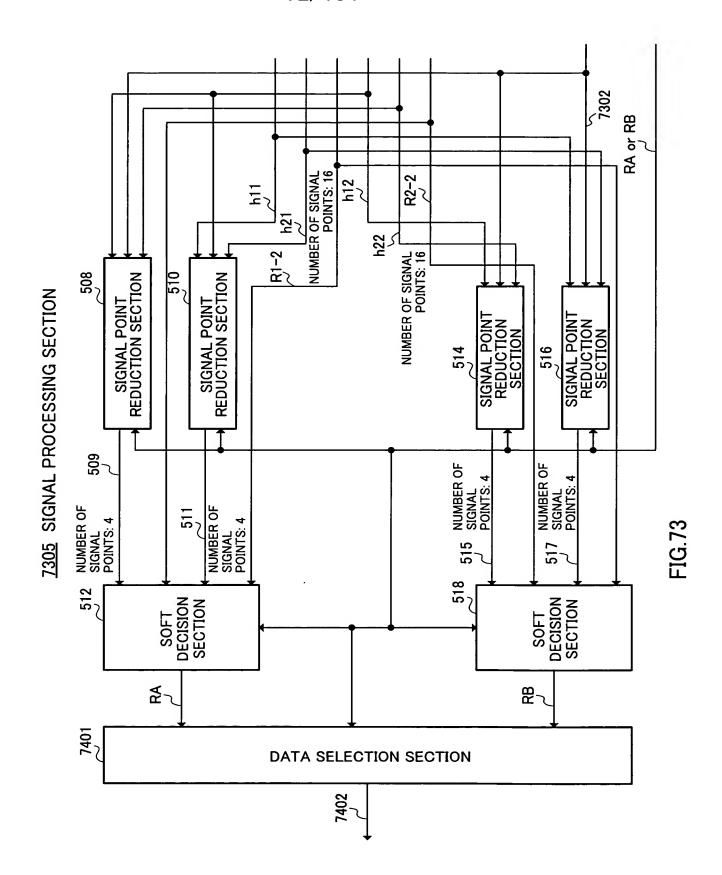


FIG.69









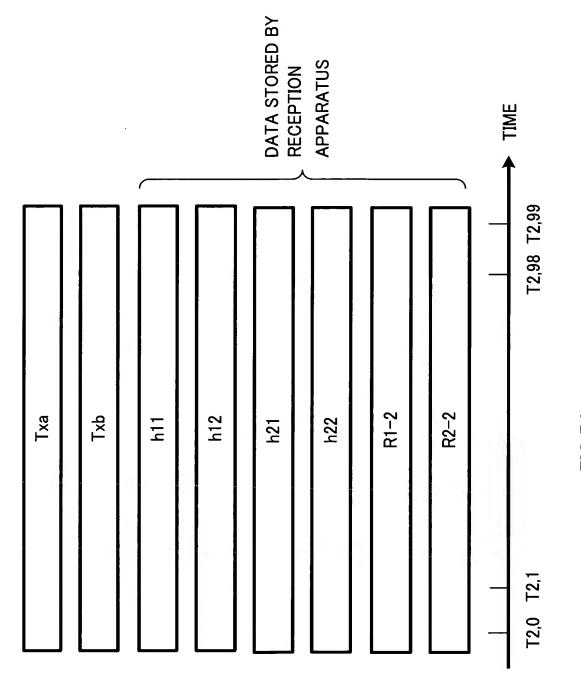
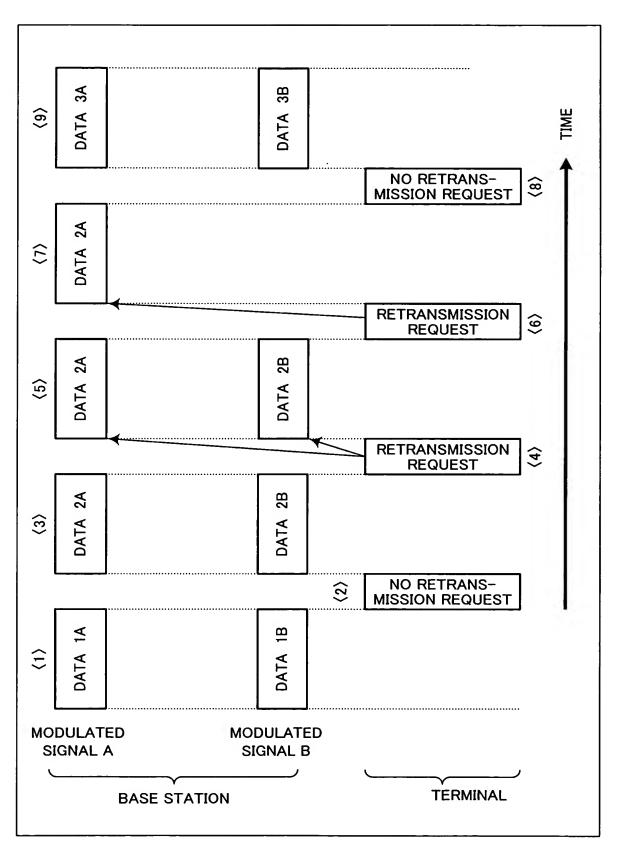
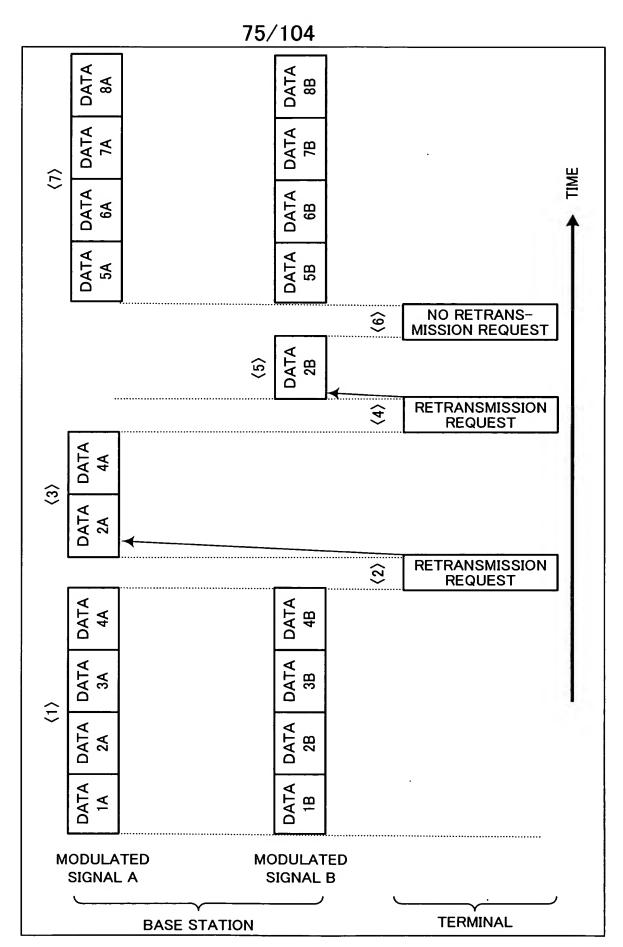


FIG.74





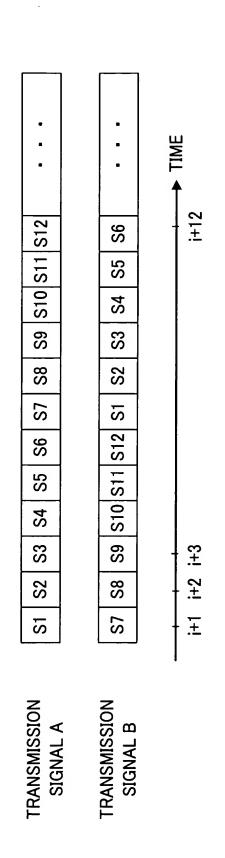
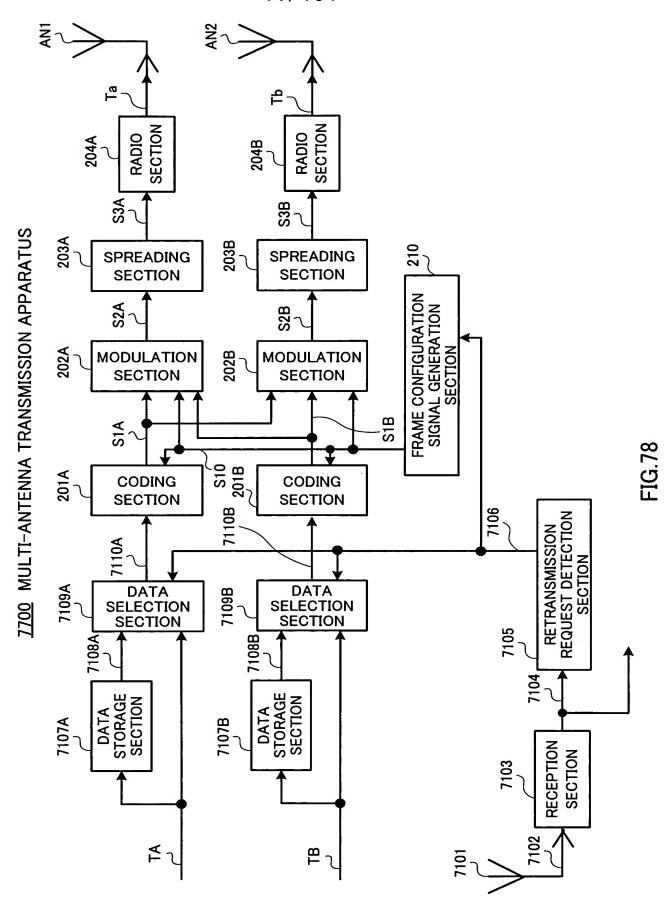


FIG.77



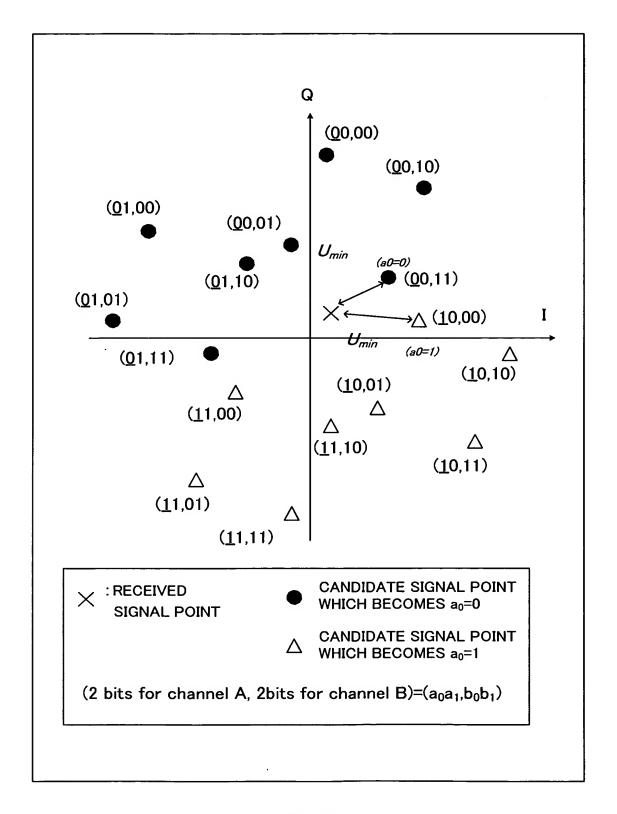


FIG.79

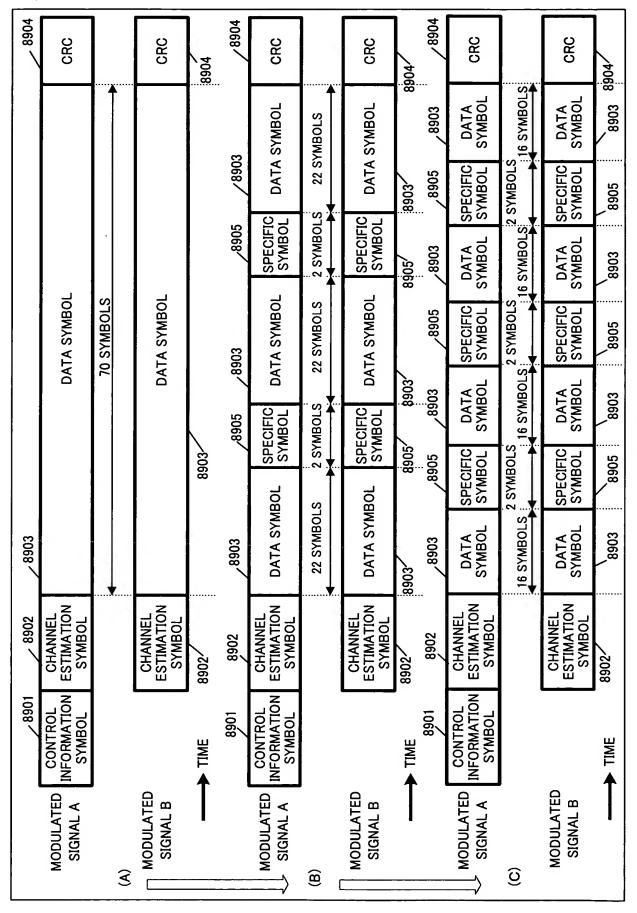
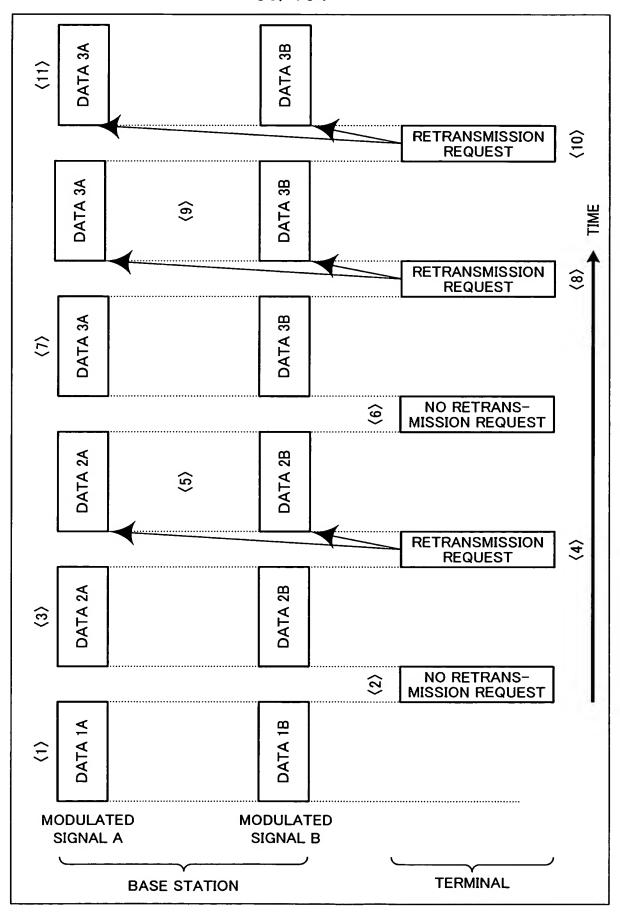


FIG.80



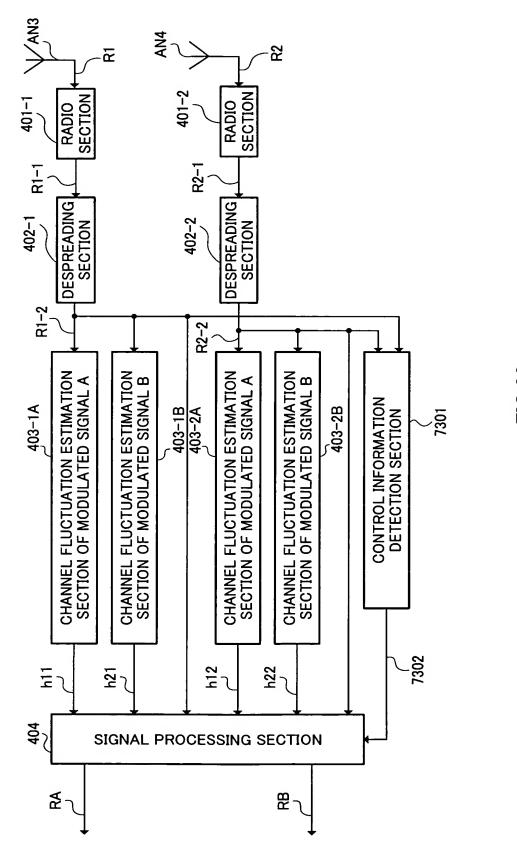


FIG.82

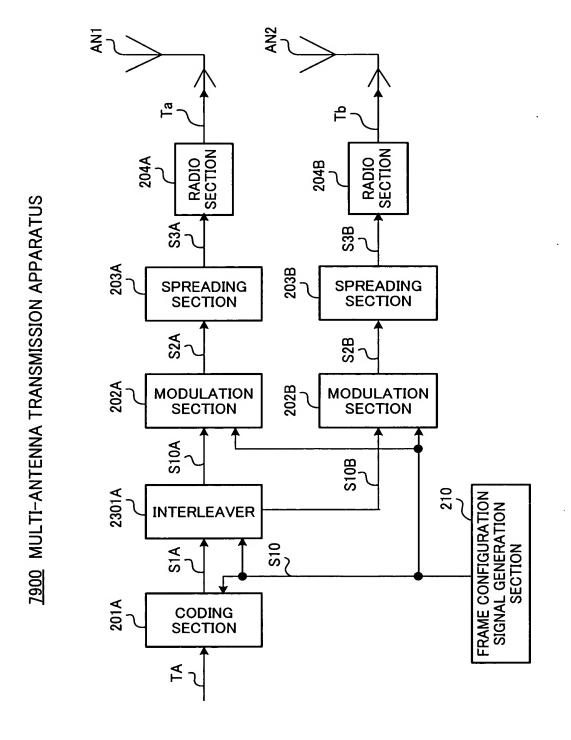
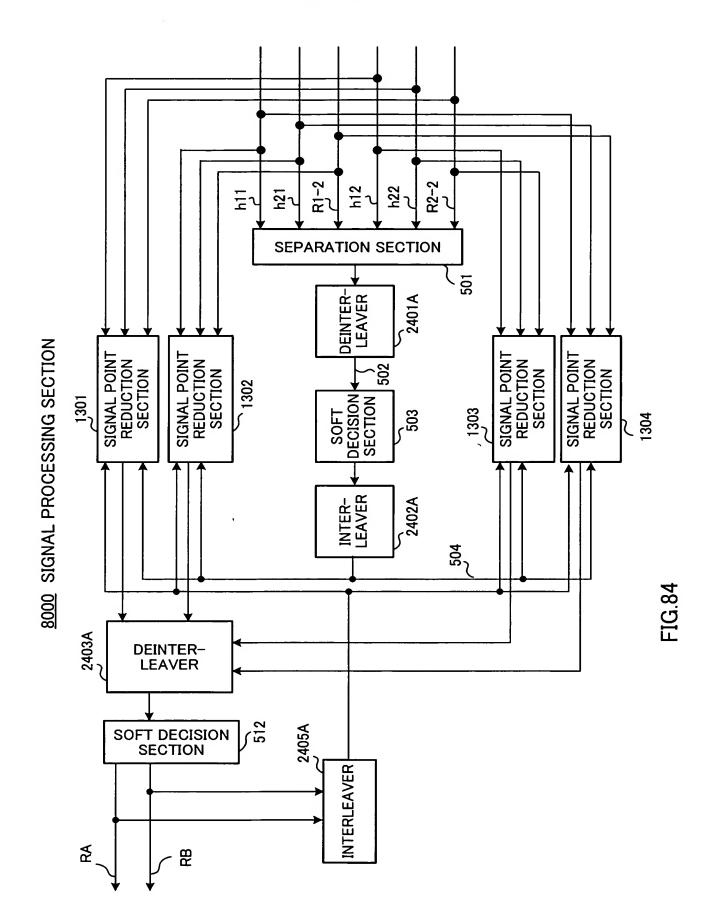


FIG.83



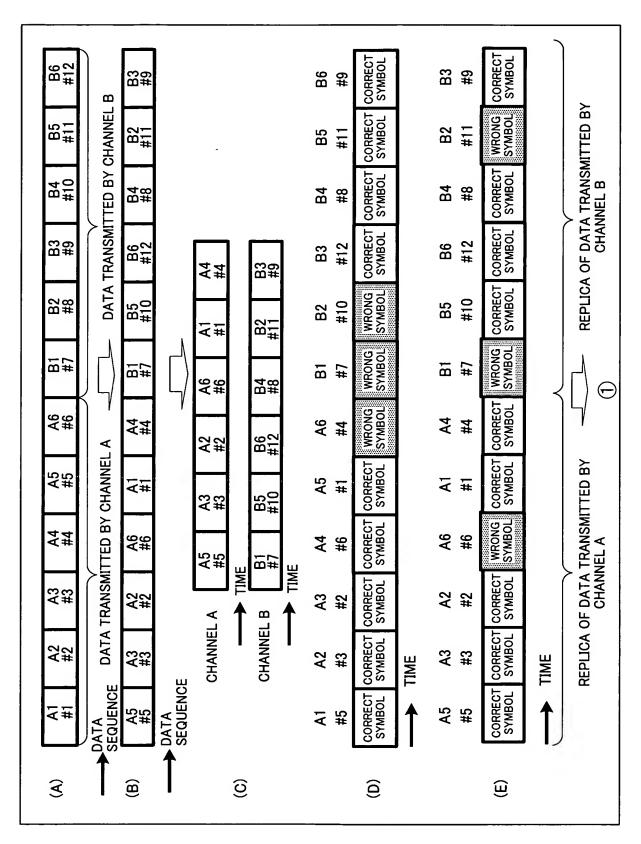


FIG.85-1

FIG.85-2

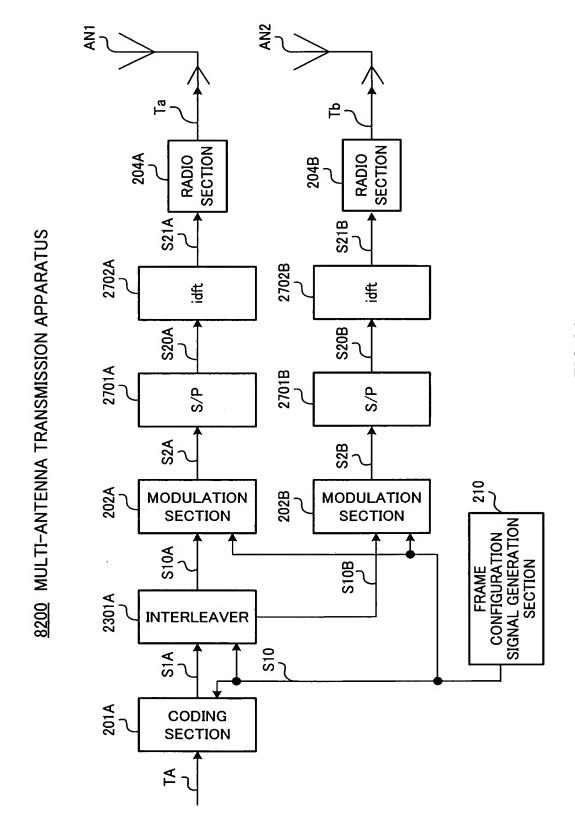


FIG.86

) BY		æ	07
TRANSMITTED BY AN2	B3	CHANNEL B	
TRANSMITTED BY AN1	A3	CHANNEL A	
TRANSMITTED BY AN2	B2	CHANNEL B	
TRANSMITTED BY AN1	A2	CHANNEL A	
TRANSMITTED BY AN2	B1	CHANNEL B	DATA SEQUENCE
TRANSMITTED BY AN1	A1	CHANNEL A	1

FIG.87

*p* .

FIG.88

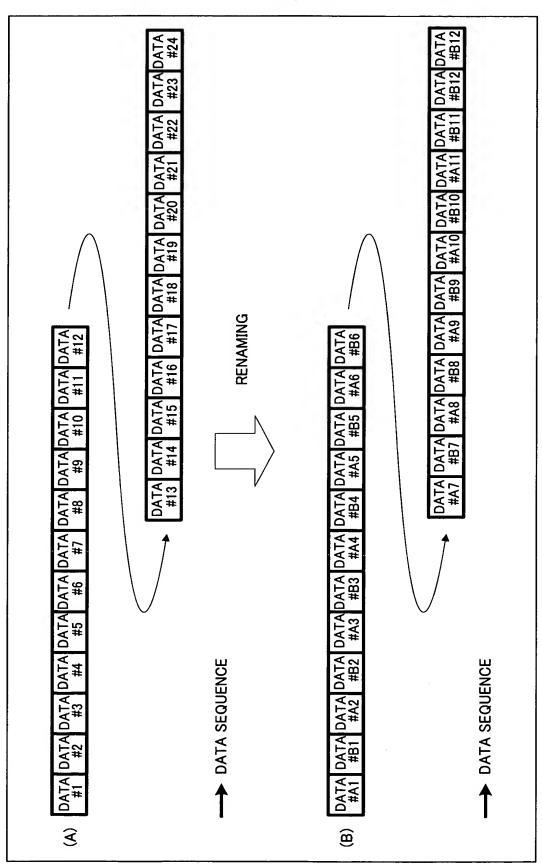
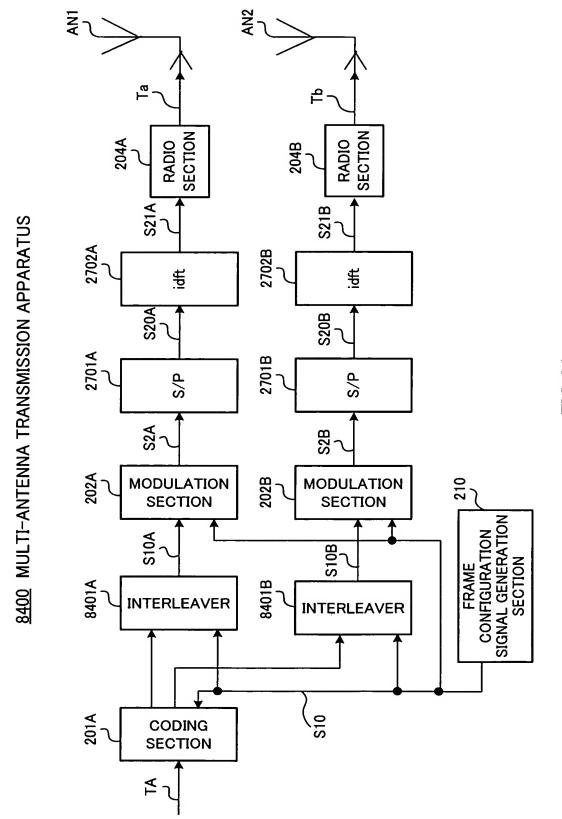


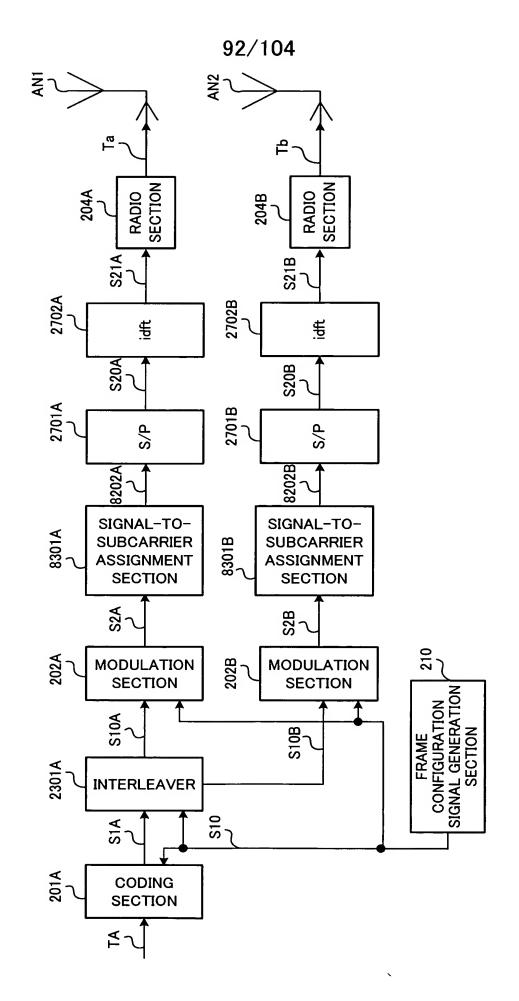
FIG.89

NEL A DATA DATA DATA DATA DATA DATA DATA D	NEL B BATA DATA DATA DATA DATA DATA DATA DA	CARRIER 1 CARRIER 3 CARRIER 5 CARRIER 7 CARRIER 9 CARRIER 11  FREQUENCY CARRIER 2 CARRIER 4 CARRIER 6 CARRIER 8 CARRIER 10 CARRIER 12	NEL A DATA DATA DATA DATA DATA DATA DATA D	NEL B DATA DATA DATA DATA DATA DATA DATA DA	CARRIER 1 CARRIER 3 CARRIER 5 CARRIER 9 CARRIER 11  EQUENCY CARRIER 2 CARRIER 4 CARRIER 6 CARRIER 8 CARRIER 10 CARRIER 12	NEL A DATA DATA DATA DATA DATA DATA DATA D	NEL B DATA DATA DATA DATA DATA DATA DATA DA	CARRIER 1 CARRIER 3 CARRIER 5 CARRIER 9 CARRIER 11  EQUENCY CARRIER 2 CARRIER 4 CARRIER 6 CARRIER 8 CARRIER 10 CARRIER 12	NEL A DATA DATA DATA DATA DATA DATA DATA D	NEL B DATA DATA DATA DATA DATA DATA DATA DA	CARRIER 1 CARRIER 3 CARRIER 5 CARRIER 7 CARRIER 9 CARRIER 11
CHANNEL A ##	CHANNEL B #	→ FREQUENCY CARF	CHANNEL A #	CHANNEL B #	CARRIER 1	CHANNEL A #	CHANNEL B #	CARRIER 1  CARRIER 1	CHANNEL A #	CHANNEL B #	CARRIER 1
3	₹		Ć	<u>n</u>			<u> </u>		į	<u> </u>	

FIG 90



-IG.91



8300 MULTI-ANTENNA TRANSMISSION APPARATUS

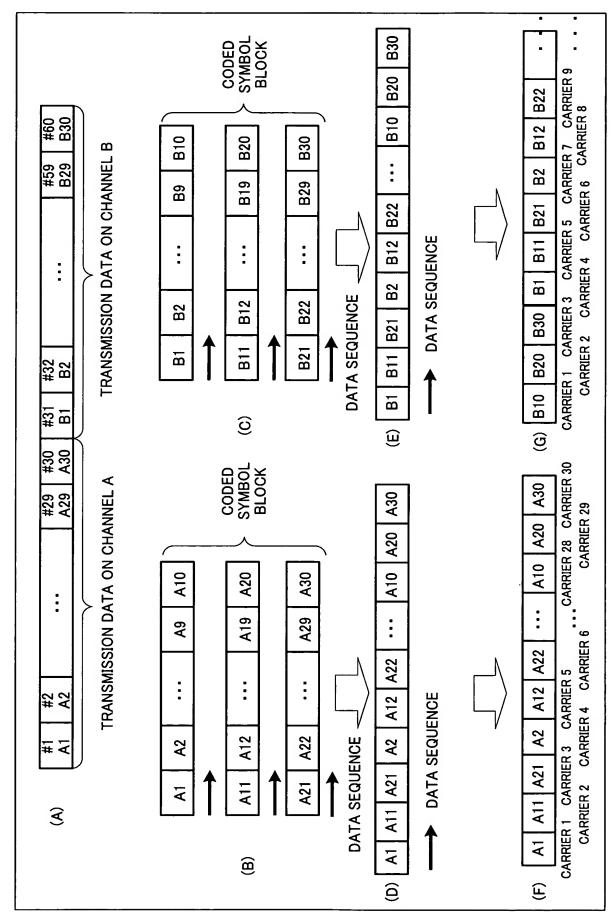
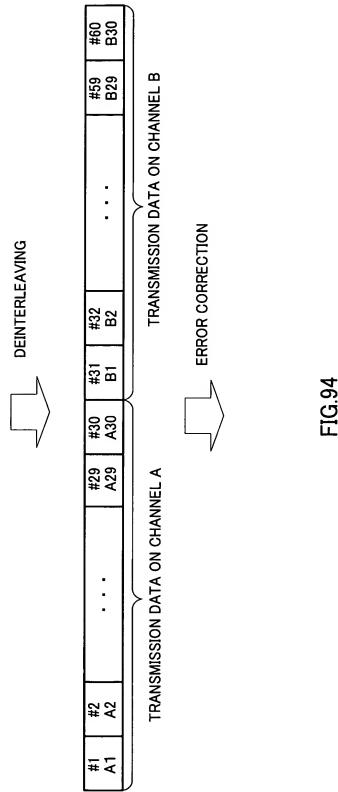


FIG.93



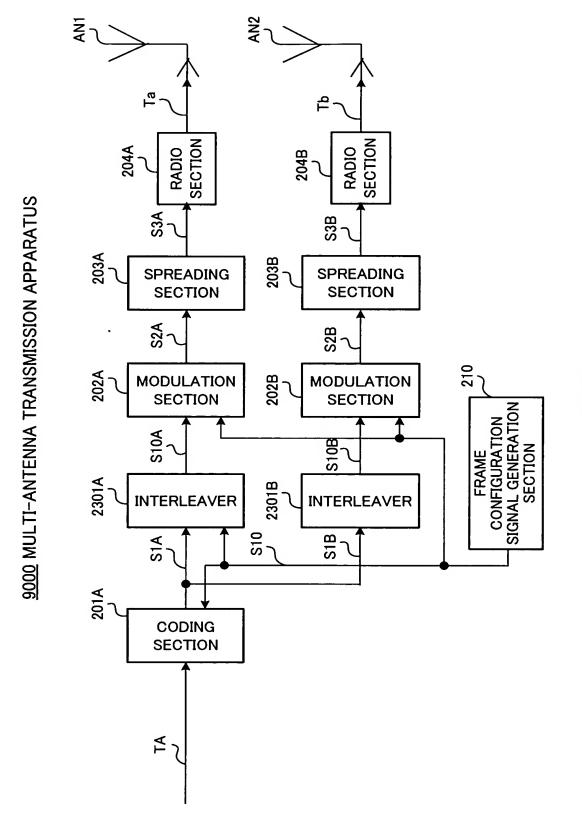


FIG.95

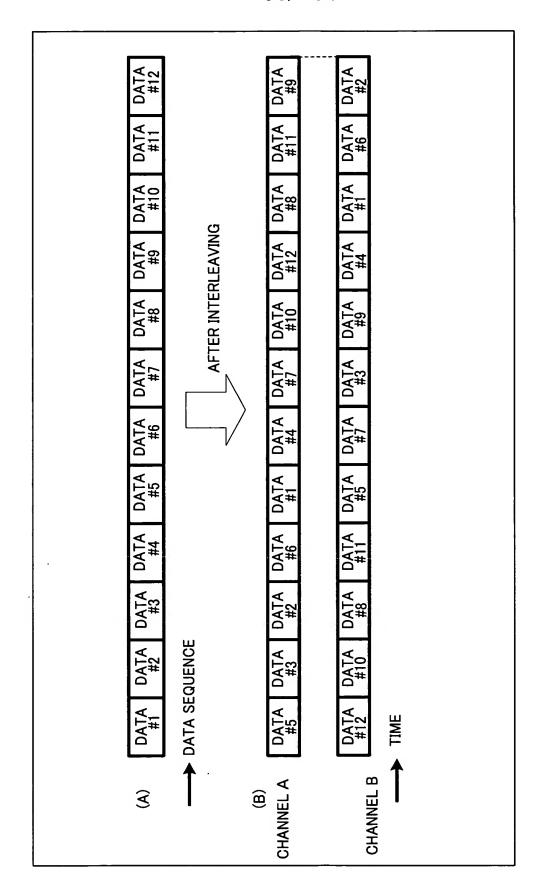
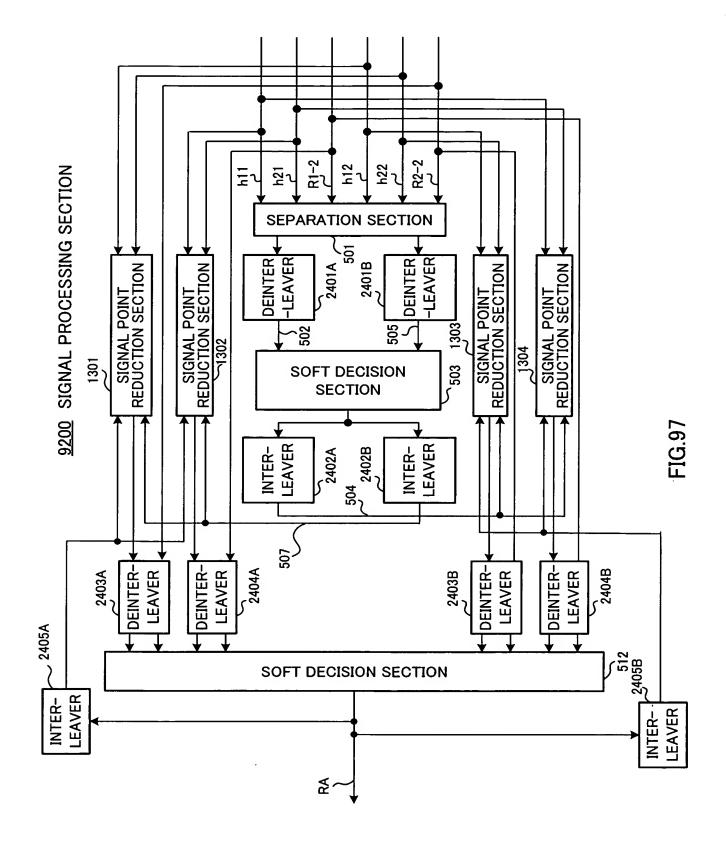


FIG.96



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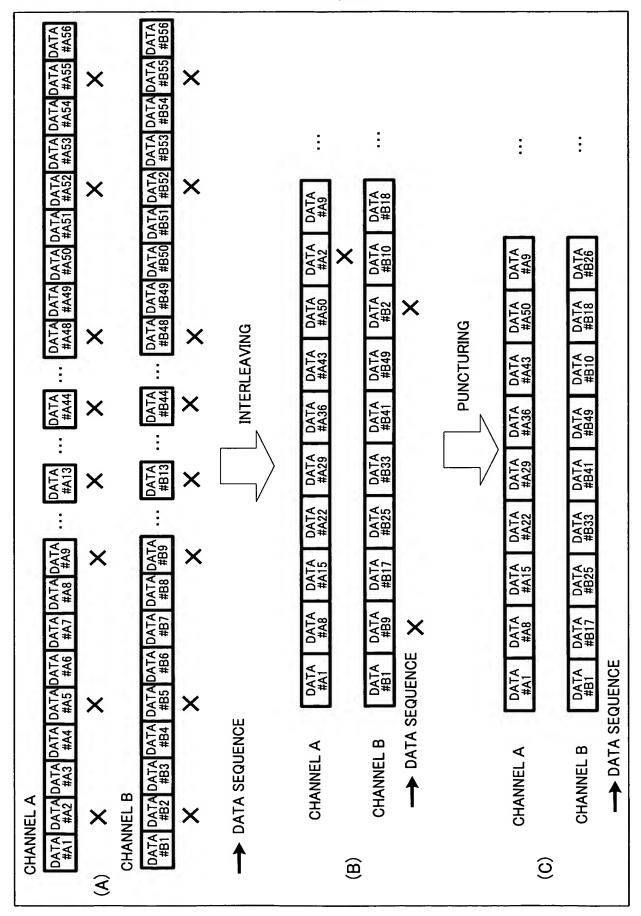


FIG.98

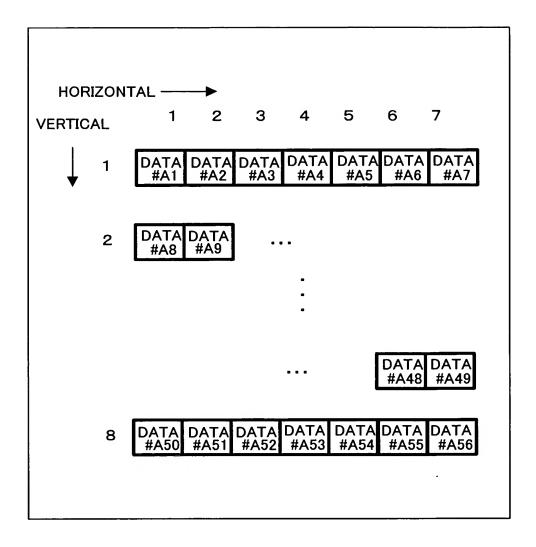
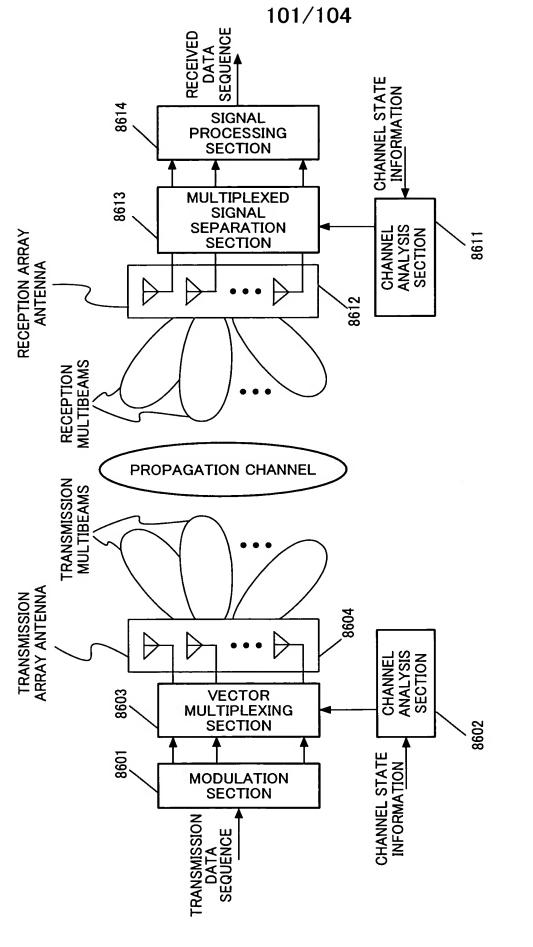


FIG.99

∢ ,		1																				
SE OF DAT ABSENT) DATA		XX	×	×	×	×	×	×	*	<b>{</b> }	{ }	<b>*</b>	×	×	×	×		×	×	•		
ABSENC ENT 0: A		1	0		<del>-</del>	0	-	_	-	- c	<b>&gt;</b> -	- +		-	0	-						
PRESENCE/ABSENCE OF DATA (1: PRESENT 0: ABSENT) ADDRESS FOR VERTICAL DIRECTION ▼ DATA	n bit	1	-	_	_	-	_	-	6	7 6	7 (	7 (	7	2	2	2		က	က	•		
ADDRESS FOR HORIZONTAL DIRECTION	m bit	1	2	က	4	2	9	7	-	- 6	۷ ۳	o <	<b>;</b> .	Ç.	ဖ	7		-	2			
		DATA#A1	DATA#A2	DATA#A3	DATA#A4	DATA#A5	DATA#A6	DATA#A7	DATA#A8	DATA#A9	DATA#A10			DATA#AIZ	DATA#A13	DATA#A14	I	DATA#A15	DATA#A16	•	•	



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-IG. 101

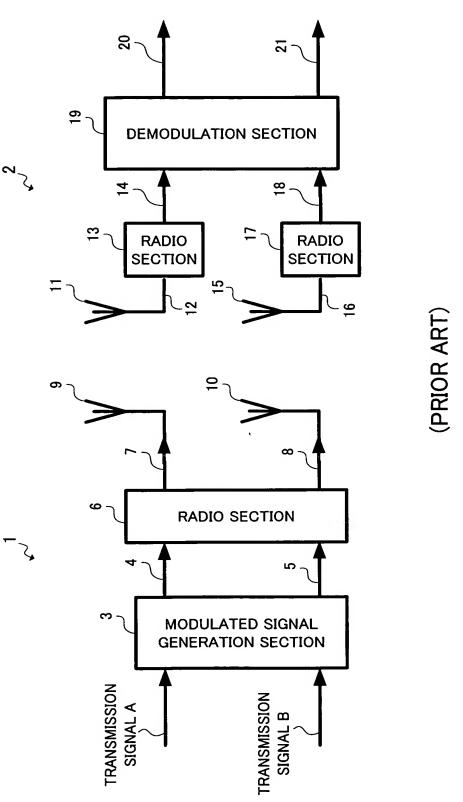
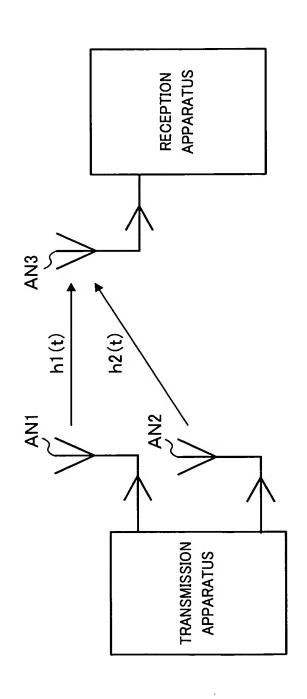


FIG.102



(PRIOR ART)

